



CONTAINS NO
GE Aerospace

Government Communications Systems Department
General Electric Company
Camden, NJ 08102
609 338 3000

ORIGINAL

March 6, 1991

TSCA Document Processing Center (TS-790)
Office of Toxic Substances
Environmental Protection Agency
Room L-100
401 M Street, SW
Washington, DC 20480

Dear Sir or Madam:

Attached herewith please find our report under the
Comprehensive Assessment Information Rule (CAIR) pursuant to
40 CFR Part 704.

If there are any questions, please contact the undersigned
at the listed address or phone.

Very truly yours,

Donald J. Kern
Senior Environmental Engineer
GE Aerospace, GCSD
Front & Cooper Streets
Mail Stop 10-1-1
Camden, NJ 08102
Phone: (609) 338-2535
FAX #: (609) 338-2075

Attach.

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EPA-OTS
0010348440

SECTION 1 GENERAL MANUFACTURER, IMPORTER, AND PROCESSOR INFORMATION

PART A GENERAL REPORTING INFORMATION

1.01 This Comprehensive Assessment Information Rule (CAIR) Reporting Form has been

completed in response to the Federal Register Notice of..... 1/2/2 2/2/2 8/8/8
no. day year

☐ a. If a Chemical Abstracts Service Number (CAS No.) is provided in the Federal

Register, list the CAS No. 00100711-08-1

b. If a chemical substance CAS No. is not provided in the Federal Register, list either (i) the chemical name, (ii) the mixture name, or (iii) the trade name of the chemical substance as provided in the Federal Register.

(i) Chemical name as listed in the rule Benzene, 1,3-diisocyanato
-2-methyl

(ii) Name of mixture as listed in the rule

(iii) Trade name as listed in the rule

c. If a chemical category is provided in the Federal Register, report the name of the category as listed in the rule, the chemical substance CAS No. you are reporting on which falls under the listed category, and the chemical name of the substance you are reporting on which falls under the listed category.

Name of category as listed in the rule

CAS No. of chemical substance 00100711-08-1

Name of chemical substance

1.02 Identify your reporting status under CAIR by circling the appropriate response(s).

☒ Manufacturer 1

☐ Importer 2

Processor 3

X/P manufacturer reporting for customer who is a processor 4

X/P processor reporting for customer who is a processor 5

☒ Mark (X) this box if you attach a continuation sheet.

1.03 Does the substance you are reporting on have an "x/p" designation associated with it in the above-listed Federal Register Notice?

CBI

☐ Yes ☒ Go to question 1.04
☐ No ☐ Go to question 1.05

1.04 a. Do you manufacture, import, or process the listed substance and distribute it under a trade name(s) different than that listed in the Federal Register Notice? Circle the appropriate response.

CBI

☐ Yes 1
☐ No (2)

b. Check the appropriate box below:

☐ You have chosen to notify your customers of their reporting obligations

Provide the trade name(s)

☐ You have chosen to report for your customers

☐ You have submitted the trade name(s) to EPA one day after the effective date of the rule in the Federal Register Notice under which you are reporting.

1.05 If you buy a trade name product and are reporting because you were notified of your reporting requirements by your trade name supplier, provide that trade name.

CBI

☐ Trade name Conathane EN-9 Part A

Is the trade name product a mixture? Circle the appropriate response.

Yes (1)
No 2

1.06 Certification -- The person who is responsible for the completion of this form must sign the certification statement below:

CBI

☐ "I hereby certify that, to the best of my knowledge and belief, all information entered on this form is complete and accurate."

DONALD J. KERN
NAME

Donald J. Kern
SIGNATURE

07 MAR 91
DATE SIGNED

SR. ENVIRONMENTAL ENG'R (604) 338 - 2535
TITLE TELEPHONE NO.

☐ Mark (X) this box if you attach a continuation sheet.

- 1.07 Exemptions From Reporting -- If you have provided EPA or another Federal agency with the required information on a CAIR Reporting Form for the listed substance within the past 3 years, and this information is current, accurate, and complete for the time period specified in the rule, then sign the certification below. You are required to complete section 1 of this CAIR form and provide any information now required but not previously submitted. Provide a copy of any previous submissions along with your Section 1 submission.

"I hereby certify that, to the best of my knowledge and belief, all required information which I have not included in this CAIR Reporting Form has been submitted to EPA within the past 3 years and is current, accurate, and complete for the time period specified in the rule."

Not Applicable - NA

NAME	SIGNATURE	DATE SIGNED
TITLE	() TELEPHONE NO.	DATE OF PREVIOUS SUBMISSION

- 1.08 CBI Certification -- If you have asserted any CBI claims in this report you must certify that the following statements truthfully and accurately apply to all of those confidentiality claims which you have asserted.

CBI
☐ "My company has taken measures to protect the confidentiality of the information, and it will continue to take these measures; the information is not, and has not been, reasonably ascertainable by other persons (other than government bodies) by using legitimate means (other than discovery based on a showing of special need in a judicial or quasi-judicial proceeding) without my company's consent; the information is not publicly available elsewhere; and disclosure of the information would cause substantial harm to my company's competitive position."

NAME	SIGNATURE	DATE SIGNED
TITLE	() TELEPHONE NO.	

☐ Mark (X) this box if you attach a continuation sheet.

PART B CORPORATE DATA

1.09 Facility Identification

CBI Name GENERAL ELECTRIC
Address FRONT AND COOPER STS
CAMDEN
State NJ Zip 08102
Dun & Bradstreet Number 00-243-2517
EPA ID Number 002342512
Employer ID Number 140689340
Primary Standard Industrial Classification (SIC) Code 3662
Other SIC Code
Other SIC Code

1.10 Company Headquarters Identification

CBI Name SEI CORPORATE HEADQUARTERS
Address 3135 EASTON TURNPIKE
FAIRFIELD
State CT Zip 06431
Dun & Bradstreet Number 00-136-7960
Employer ID Number 140689340

☐ Mark (X) this box if you attach a continuation sheet.

[illegible]

Dun & Bradstreet Number[][]-[][][]-[][][][]

CBI Name DONALD D J KERN
Title SENIOR INSTRUMENTAL ENGINEER
Address GEMEROSPACE MZS TO-TT
Street
CAMDEN
City
NJ 08102
State Zip

Telephone Number (609) - (338) - (2535)

1.13 This reporting year is from (0) (1) (2) (3) to (1) (2) (3) (4)
Mo. Year Mo. Year

☐ Mark (X) this box if you attach a continuation sheet.

1.14 Facility Acquired -- If you purchased this facility during the reporting year, provide the following information about the seller:

[illegible]

NA

[illegible]

() State () Zip

Employer ID Number() () () () () () () ()

Date of Sale () () ()
Mo. Day Year

[illegible]

Telephone Number() () () -() () () -() () ()

1.15 Facility Sold -- If you sold this facility during the reporting year, provide the following information about the buyer:

[illegible][illegible]

NA

City

() () () () () () () -- () () ()
State Zip

Employer ID Number() () () () () () ()

Date of Purchase () () ()
Mo. Day Ye

Contact Person [][][][][][][][][][][][][][][][][][][][][][][][]

Telephone Number() () () -() () () -() () ()

☐ Mark (X) this box if you attach a continuation sheet.

1.16 For each classification listed below, state the quantity of the listed substance that was manufactured, imported, or processed at your facility during the reporting year.

CBI

☐ Classification Quantity

Manufactured NA
Imported NA
Processed (include quantity repackaged) 4.9

Of that quantity manufactured or imported, report that quantity:

In storage at the beginning of the reporting year NA
For on-site use or processing NA
For direct commercial distribution (including export) NA
In storage at the end of the reporting year NA

Of that quantity processed, report that quantity:

In storage at the beginning of the reporting year 0.9
Processed as a reactant (chemical producer) 0
Processed as a formulation component (mixture producer) 0
Processed as an article component (article producer) ~ 4.9
Repackaged (including export) 0
In storage at the end of the reporting year UNK

FOR 2,6 TDI

☐ Mark (X) this box if you attach a continuation sheet.

PART C IDENTIFICATION OF MIXTURES

1.17 Mixture -- If the listed substance on which you are required to report is a mixture or a component of a mixture, provide the following information for each component chemical. (If the mixture composition is variable, report an average percentage of each component chemical for all formulations.)

131

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Component Name	Supplier Name	Average % Composition by Weight (specify precision, e.g., 45% ± 0.5%)
{ 2,6-Terenediisocyanate	Conap	1.0% ± 0.2%
unknown	Conap	99%
Total		100%

Note: Tradenames: Conap EN-9 Part A

[] Mark (X) this box if you attach a continuation sheet.

PART C IDENTIFICATION OF MIXTURES

1.17 Mixture -- If the listed substance on which you are required to report is a mixture or a component of a mixture, provide the following information for each component chemical. (If the mixture composition is variable, report an average percentage of each component chemical for all formulations.)

EEI

[]

Component Name	Supplier Name	Average % Composition by Weight (specify precision, e.g., 45% ± 0.5%)
2,6-Toluenediisocyanate	Northern Industrial	12 ± 0.3%
Xylenes	Northern Industrial	64 ± 2%
Unknown	Northern Industrial	balance
Total		100%

[] Mark (X) this box if you attach a continuation sheet.

PART C IDENTIFICATION OF MIXTURES

1.17 Mixture -- If the listed substance on which you are required to report is a mixture or a component of a mixture, provide the following information for each component chemical. (If the mixture composition is variable, report an average percentage of each component chemical for all formulations.)

— 3 —

[1]

Component Name	Supplier Name	Average % Composition by Weight (specify precision. e.g., 45% ± 0.5%)
2,6-Toluene diisocyanate	CONAP	2.0% ± 0.2%
Xylenes	CONAP	30% ± 1%
"unknown"	CONAP	Balance
		Total 100%

TRADE NAME: CONATHANE CE1155-35 Part A

☐ Mark (X) this box if you attach a continuation sheet.

SECTION 2 MANUFACTURER, IMPORTER, AND PROCESSOR VOLUME AND USE

2.01 State the total number of years, including the reporting year, that your facility -
CBI manufactured, imported, or processed the listed substance.

☐ Number of years manufactured NA
 Number of years imported NA
 Number of years processed ~ 7

2.02 State the quantity of the listed substance that your facility manufactured, imported
CBI or processed during the corporate fiscal year preceding the reporting year.

☐ Year ending 11/21/13
Mo. Year
 Quantity manufactured NA
 Quantity imported NA
 Quantity processed ~ 15

2.03 State the quantity of the listed substance that your facility manufactured, imported
CBI or processed during the 2 corporate fiscal years preceding the reporting year in
 descending order.

☐ Year ending 11/21/13
Mo. Year
 Quantity manufactured NA
 Quantity imported NA
 Quantity processed ~ 30
 Year ending 11/21/12
Mo. Year
 Quantity manufactured NA
 Quantity imported NA
 Quantity processed ~ 30

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☐ Mark (X) this box if you attach a continuation sheet.

2.04 State the quantity of the listed substance that your facility manufactured, imported or processed during the 3 corporate fiscal years preceding the reporting year in descending order.

CBI

<input type="checkbox"/> Year ending	1121	1217	
	Mo.	Year	
Quantity manufactured	NA		kg
Quantity imported	NA		kg
Quantity processed	~15		kg
Year ending	1121	1816	
	Mo.	Year	
Quantity manufactured	NA		kg
Quantity imported	NA		kg
Quantity processed	~30		kg
Year ending	1121	1815	
	Mo.	Year	
Quantity manufactured	NA		kg
Quantity imported	NA		kg
Quantity processed	~30		kg

2.05 Specify the manner in which you manufactured the listed substance. Circle all appropriate process types.

CBI

<input type="checkbox"/> Continuous process	<div style="border: 1px solid black; padding: 5px; display: inline-block;">NA</div>	
Semicontinuous process		
Batch process		

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☐ Mark (X) this box if you attach a continuation sheet.

2.06 Specify the manner in which you processed the listed substance. Circle all appropriate process types.

CBI

☐

Continuous process 1

Semicontinuous process 2

Batch process 3

2.07 State your facility's name-plate capacity for manufacturing or processing the listed substance. (If you are a batch manufacturer or batch processor, do not answer this question.)

CBI

☐

Manufacturing capacity NA kg

Processing capacity NA kg

2.08 If you intend to increase or decrease the quantity of the listed substance manufactured, imported, or processed at any time after your current corporate fiscal year, estimate the increase or decrease based upon the reporting year's production volume.

CBI

☐

	Manufacturing Quantity (kg)	Importing Quantity (kg)	Processing Quantity (kg)
Amount of increase	NA	NA	NA
Amount of decrease	NA	NA	"unk"

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☒ Mark (X) this box if you attach a continuation sheet.

- 2.09 For the three largest volume manufacturing or processing process types involving the listed substance, specify the number of days you manufactured or processed the listed substance during the reporting year. Also specify the average number of hours per day each process type was operated. (If only one or two operations are involved, list those.)

CBI

☐

Days/Year Average
Hours/Day

Process Type #1 (The process type involving the largest quantity of the listed substance.)

Manufactured NA

Processed ~200 <8

Process Type #2 (The process type involving the 2nd largest quantity of the listed substance.)

Manufactured NA

Processed 70 <8

Process Type #3 (The process type involving the 3rd largest quantity of the listed substance.)

Manufactured NA

Processed ~30 <3

- 2.10 State the maximum daily inventory and average monthly inventory of the listed substance that was stored on-site during the reporting year in the form of a bulk chemical.

CBI

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Process 1 ☐ Maximum daily inventory NA kg

Average monthly inventory NA kg

Process 2 ☐ Maximum daily inventory NA kg

Average monthly inventory NA kg

Process 3 ☐ Maximum daily inventory NA kg

Average monthly inventory NA kg

☐ Mark (X) this box if you attach a continuation sheet.

2.11 Related Product Types -- List any byproducts, coproducts, or impurities present with the listed substance in concentrations greater than 0.1 percent as it is manufactured, imported, or processed. The source of byproducts, coproducts, or impurities means the source from which the byproducts, coproducts, or impurities are made or introduced into the product (e.g., carryover from raw material, reaction product, etc.).

CBI

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<u>CAS No.</u>	<u>Chemical Name</u>	<u>Byproduct, Coproduct, or Impurity</u>	<u>Concentration (%) (specify % precision)</u>	<u>Source of Byproduct, Coproduct, or Impurities</u>
<u>91-08-7</u>	<u>2,6-Toluenediisocyanate</u>	<u>I</u>	<u>1% ± 0.5%</u>	<u>Raw Mat'l</u>
<u>584-84-9</u>	<u>2,4-Toluenediisocyanate</u>	<u>I</u>	<u>1% ± 0.5%</u>	<u>Raw Mat'l</u>
<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>
<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>
<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>
<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>

¹Use the following codes to designate byproduct, coproduct, or impurity:

B = Byproduct
C = Coproduct
I = Impurity

CONATHANE EN-9 PART A

☐ Mark (X) this box if you attach a continuation sheet.

2.11 Related Product Types -- List any byproducts, coproducts, or impurities present with the listed substance in concentrations greater than 0.1 percent as it is manufactured, imported, or processed. The source of byproducts, coproducts, or impurities means the source from which the byproducts, coproducts, or impurities are made or introduced into the product (e.g., carryover from raw material, reaction product, etc.).

CBI

☐

<u>CAS No.</u>	<u>Chemical Name</u>	<u>Byproduct, Coproduct or Impurity</u>	<u>Concentration (%) (specify % precision)</u>	<u>Source of Byproduct, Coproduct, or Impurities</u>
91-08-7	2,6-Toluenediisocyanate	I	28 ± 0.52	Raw Mat'l
584-84-9	2,4-Toluenediisocyanate	I	0.2 % ± 0.018	Raw Mat'l

Use the following codes to designate byproduct, coproduct, or impurity:

B = Byproduct
C = Coproduct
I = Impurity

CONATHANE CE-1155 PART A

☐ Mark (X) this box if you attach a continuation sheet.

2.11 Related Product Types -- List any byproducts, coproducts, or impurities present with the listed substance in concentrations greater than 0.1 percent as it is manufactured, imported, or processed. The source of byproducts, coproducts, or impurities means the source from which the byproducts, coproducts, or impurities are made or introduced into the product (e.g., carryover from raw material, reaction product, etc.).

CBI

☐

<u>CAS No.</u>	<u>Chemical Name</u>	<u>Byproduct, Coproduct, or Impurity¹</u>	<u>Concentration (%) (specify ± % precision)</u>	<u>Source of Byproducts, Coproducts, or Impurities</u>
<u>584-84-9</u>	<u>2,4-Toluenediisocyanate</u>	<u>I</u>	<u>1% ± 0.2%</u>	<u>Raw Mat'l</u>
<u>91-09-7</u>	<u>2,6-Toluenediisocyanate</u>	<u>I</u>	<u>2% ± 0.2%</u>	<u>Raw Mat'l</u>
<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>
<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>
<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>
<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>

¹Use the following codes to designate byproduct, coproduct, or impurity:

B = Byproduct
C = Coproduct
I = Impurity

POLYMER SEAL

☐ Mark (X) this box if you attach a continuation sheet.

2.11 Related Product Types -- List any byproducts, coproducts, or impurities present with the listed substance in concentrations greater than 0.1 percent as it is manufactured, imported, or processed. The source of byproducts, coproducts, or impurities means the source from which the byproducts, coproducts, or impurities are made or introduced into the product (e.g., carryover from raw material, reaction product, etc.).

CBI

☐

<u>CAS No.</u>	<u>Chemical Name</u>	<u>Byproduct, Coproduct or Impurity¹</u>	<u>Concentration (%) (specify % precision)</u>	<u>Source of Byproducts, Coproducts, or Impurities</u>
<u>91-08-7</u>	<u>2,6-Toluene diisocyanate</u>	<u>I</u>	<u>0.1% ± 0.05%</u>	<u>Raw Mat'l</u>
<u>524-24-9</u>	<u>2,4-Toluene diisocyanate</u>	<u>I</u>	<u>0.1% ± 0.05%</u>	<u>Raw Mat'l</u>
<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>
<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>
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¹Use the following codes to designate byproduct, coproduct, or impurity:

B = Byproduct
C = Coproduct
I = Impurity

ADIPRENE L-100

☐ Mark (X) this box if you attach a continuation sheet.

- 3.12 Existing Product Types -- List all existing product types which you manufactured, imported, or processed using the listed substance during the reporting year. List the quantity of listed substance you use for each product type as a percentage of total volume of listed substance used during the reporting year. Also list the quantity of listed substance used captively on-site as a percentage of the value listed under column b., and the types of end-users for each product type. Refer to the instructions for further explanation and an example.)
- ☐ CBI

a. Product Types ¹	b. % of Quantity Manufactured, Imported, or Processed	c. % of Quantity Used Captively On-Site	d. Type of End-User
C	15	10	H
K	5	0	H
L	80	0	H

¹Use the following codes to designate product types:

A = Solvent	L = Moldable/Castable/Rubber and additives
B = Synthetic reactant	M = Plasticizer
C = Catalyst/Initiator/Accelerator/Sensitizer	N = Dye/Pigment/Colorant/Ink and additives
D = Inhibitor/Stabilizer/Scavenger/Antioxidant	O = Photographic/Reprographic chemical and additives
E = Analytical reagent	P = Electrodeposition/Plating chemicals
F = Chelator/Coagulant/Sequestrant	Q = Fuel and fuel additives
G = Cleanser/Detergent/Degreaser	R = Explosive chemicals and additives
H = Lubricant/Friction modifier/Antivear agent	S = Fragrance/Flavor chemicals
I = Surfactant/Emulsifier	T = Pollution control chemicals
J = Flame retardant	U = Functional fluids and additives
K = Coating/Binder/Adhesive and additives	V = Metal alloy and additives
	W = Rheological modifier
	X = Other (specify) _____

²Use the following codes to designate the type of end-users:

I = Industrial	CS = Consumer
CM = Commercial	H = Other (specify) <u>MILITARY</u>

☐ Mark (X) this box if you attach a continuation sheet.

- 2.13 Expected Product Types -- Identify all product types which you expect to manufacture, import, or process using the listed substance at any time after your current corporate fiscal year. For each use, specify the quantity you expect to manufacture, import, or process for each use as a percentage of the total volume of listed substance used during the reporting year. Also list the quantity of listed substance used captively on-site as a percentage of the value listed under column b., and the types of end-users for each product type. (Refer to the instructions for further explanation and an example.)

CBI

☐

a.	b.	c.	d.
Product Types ¹	% of Quantity Manufactured, Imported, or Processed	% of Quantity Used Captively On-Site	Type of End-User ²
L	>90	NA	H

¹Use the following codes to designate product types:

A = Solvent	L = Moldable/Castable/Rubber and additive
B = Synthetic reactant	M = Plasticizer
C = Catalyst/Initiator/Accelerator/Sensitizer	N = Dye/Pigment/Colorant/Ink and additive
D = Inhibitor/Stabilizer/Scavenger/Antioxidant	O = Photographic/Reprographic chemical and additives
E = Analytical reagent	P = Electrodeposition/Plating chemicals
F = Chelator/Coagulant/Sequestrant	Q = Fuel and fuel additives
G = Cleanser/Detergent/Degreaser	R = Explosive chemicals and additives
H = Lubricant/Friction modifier/Antivear agent	S = Fragrance/Flavor chemicals
I = Surfactant/Emulsifier	T = Pollution control chemicals
J = Flame retardant	U = Functional fluids and additives
K = Coating/Binder/Adhesive and additives	V = Metal alloy and additives
	W = Rheological modifier
	X = Other (specify) _____

²Use the following codes to designate the type of end-users:

I = Industrial	CS = Consumer
CH = Commercial	H = Other (specify) <u>US Military</u>

☐ Mark (X) this box if you attach a continuation sheet.

2.14
CBI
☐

Final Product: -- Complete the following table for each type of final product manufactured, imported, or processed at your facility that contains the listed substance other than as an impurity.

a.	b.	c.	d.
Product Type ¹	Final Product's Physical Form ²	Average % Composition of Listed Substance in Final Product	Type of End-Users
NA			

¹Use the following codes to designate product types:

- | | |
|------------------------------------------------|------------------------------------------------------|
| A = Solvent | L = Moldable/Castable/Rubber and additive |
| B = Synthetic reactant | M = Plasticizer |
| C = Catalyst/Initiator/Accelerator/Sensitizer | N = Dye/Pigment/Colorant/Ink and additive |
| D = Inhibitor/Stabilizer/Scavenger/Antioxidant | O = Photographic/Reprographic chemical and additives |
| E = Analytical reagent | P = Electrodeposition/Plating chemicals |
| F = Chelator/Coagulant/Sequestrant | Q = Fuel and fuel additives |
| G = Cleanser/Detergent/Degreaser | R = Explosive chemicals and additives |
| H = Lubricant/Friction modifier/Antivear agent | S = Fragrance/Flavor chemicals |
| I = Surfactant/Emulsifier | T = Pollution control chemicals |
| J = Flame retardant | U = Functional fluids and additives |
| K = Coating/Binder/Adhesive and additives | V = Metal alloy and additives |
| | W = Rheological modifier |
| | X = Other (specify) _____ |

²Use the following codes to designate the final product's physical form:

- | | |
|----------------------|---------------------------|
| A = Gas | F2 = Crystalline solid |
| B = Liquid | F3 = Granules |
| C = Aqueous solution | F4 = Other solid |
| D = Paste | G = Gel |
| E = Slurry | H = Other (specify) _____ |
| F1 = Powder | |

³Use the following codes to designate the type of end-users:

- | | |
|-----------------|---------------------------|
| I = Industrial | CS = Consumer |
| CM = Commercial | H = Other (specify) _____ |

☐ Mark (X) this box if you attach a continuation sheet.

2.15 Circle all applicable modes of transportation used to deliver bulk shipments of the listed substance to off-site customers.

- ☐ Truck
Railcar
Barge, Vessel
Pipeline
Plane
Other (specify) _____

NA

2.16 Customer Use -- Estimate the quantity of the listed substance used by your customers or prepared by your customers during the reporting year for use under each category of end use listed (i-iv).

☐

Category of End Use

i. Industrial Products

Chemical or mixture kg
Article kg

ii. Commercial Products

Chemical or mixture kg
Article kg

iii. Consumer Products

Chemical or mixture kg
Article kg

iv. Other

Distribution (excluding export) kg
Export kg
Quantity of substance consumed as reactant kg
Unknown customer uses kg

NA

☐ Mark (X) this box if you attach a continuation sheet.

2.17 State the quantity of the listed substance that you exported during the reporting
CBI year.

☐

In bulk
As a mixture
In articles

NSA

☐ Mark (X) this box if you attach a continuation sheet.

PART A GENERAL DATA

- 3.01 Specify the quantity purchased and the average price paid for the listed substance for each major source of supply listed. Product trades are treated as purchases.
- CBI The average price is the market value of the product that was traded for the listed substance.

☐

<u>Source of Supply</u>	<u>Quantity (kg)</u>	<u>Average Price \$/kg</u>
The listed substance was manufactured on-site.	<u>NA</u>	<u>NA</u>
The listed substance was transferred from a different company site.	<u>NA</u>	<u>NA</u>
The listed substance was purchased directly from a manufacturer or importer.	<u>NA</u>	<u>NA</u>
The listed substance was purchased from a distributor or repackager.	<u>~1.5</u>	<u>"unk"</u>
The listed substance was purchased from a mixture producer.	<u>~2.0</u>	<u>"unk"</u>

- 3.02 Circle all applicable modes of transportation used to deliver the listed substance to your facility.

CBI

☐

- Truck 1
- Railcar 2
- Barge, Vessel 3
- Pipeline 4
- Plane 5
- Other (specify) _____ 6

☐ Mark (X) this box if you attach a continuation sheet.

3.03
CBI

a. Circle all applicable containers used to transport the listed substance to your facility.

☐

Bags 1
Boxes 2
Free standing tank cylinders 3
Tank rail cars 4
Hopper cars 5
Tank trucks 6
Hopper trucks 7
Drums 8
Pipeline 9
Other (specify) _____ 10

b. If the listed substance is transported in pressurized tank cylinders, tank rail cars, or tank trucks, state the pressure of the tanks.

NA

Tank cylinders mmHg
Tank rail cars mmHg
Tank trucks mmHg

☐ Mark (X) this box if you attach a continuation sheet.

PART B RAW MATERIAL IN THE FORM OF A MIXTURE

3.04 If you obtain the listed substance in the form of a mixture, list the trade names of the mixture, the name of its supplier(s) or manufacturer(s), an estimate of the average percent composition by weight of the listed substance in the mixture, and amount of mixture processed during the reporting year.

☐

<u>Trade Name</u>	<u>Supplier or Manufacturer</u>	<u>Average % Composition by Weight (specify \pm % precision)</u>	<u>Amount Processed (kg)</u>
CONATANE EN-9	CONAP	$2 \pm 0.5\%$	38.2
CONATANE CE 1155-35	CONAP	$2 \pm 0.5\%$	100
Polymer Seal	Northern Industrial Maintenance	$1 \pm 0.2\%$	2600
_____	_____	_____	_____

☐ Mark (X) this box if you attach a continuation sheet.

PART C RAW MATERIAL VOLUME

3.05 State the quantity of the listed substance used as a raw material during the reporting year in the form of a class I chemical, class II chemical, or polymer, and the percent composition, by weight, of the listed substance.

☐

	Quantity Used (kg/yr)	% Composition of Weight of Listed Sub- stance in Raw Material (specify % precision)
Class I chemical	<u>27.3</u> <u>110.7</u>	<u>1.0 ± 0.1%</u> <u>2.0 ± 0.1%</u>
Class II chemical	<u> </u> <u> </u> <u> </u>	<u> </u> <u> </u> <u> </u>
Polymer	<u> </u> <u> </u> <u> </u>	<u> </u> <u> </u> <u> </u>

☐ Mark (X) this box if you attach a continuation sheet.

C0601

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1405 Buffalo St.
Olean, New York 14760
716/372-9650

===== MATERIAL SAFETY DATA SHEET =====

Note: This form is to be used to comply with OSHA's Hazard Communication Standard, 29 CFR 1910.1200. Blank spaces are not permitted.

===== I. IDENTIFICATION =====

Trade Name Conathane EN-9 OZR Part A Date: 5/25/89
Chemical Name, common name: Complex Mixture; Polyurethane
Prepolymer

===== II. HAZARDOUS INGREDIENTS =====

Chemical Names	CAS No.	%	ACGIH(TLV)	OSHA(PEL)	Other
Toluene	2,4 Diisocyanate	584-84-9	<15%	.005ppm TWA	.005ppm TWA .02ppm STEL ND

Material may present a dust hazard if cut, ground or machined after curing.

===== III. PHYSICAL DATA =====

Boiling Point ND !Specific Gravity (H₂O=1) 1.06
Vapor Pressure, mm Hg ND !Vapor Density (air=1) ND
Melting Pt./Range ND !Evaporation rate (Ether=1) ND
Solubility in Water: REACTS! Physical State: LIQUID
Percent volatile by volume: Negligible
Appearance and Odor: Liquid; For TDI Sharp pungent (odor threshold greater than TLV)

===== IV. FIRE AND EXPLOSION DATA =====

Flash Point, F (Method): > 260 F PMCC
Flammable Limits ND LEL ND UEL ND
Extinguishing Materials:
-XX-Water Spray -XX-Dry Chemical -XX-Carbon Dioxide
-XX-Foam -ND-Other:
Special Firefighting Procedures/Unusual Fire or Explosion Hazards:

Full emergency equipment with self-contained breathing apparatus and full protective clothing should be worn by fire fighters. No skin surface should be exposed. During a fire TDI vapors and other irritating, highly toxic gases may be generated by thermal decomposition or combustion. At temperatures greater than 350 F TDI forms carbodiimides with the release of CO₂ which can cause pressure build-up in closed containers. Explosive rupture is possible. Therefore, use cold water to cool fire-exposed containers.

===== V. HEALTH HAZARD INFORMATION =====

ACUTE TOXICITY (Routes of entry)

Inhalation:

LC50.(4 hr.): Range 16-50ppm for 1-4 hr (Rat) on TDI. TDI

vapors or mist at concentrations above the TLV can irritate (burning sensation) the mucous membranes in the respiratory tract (nose, throat, lungs) causing runny nose, sore throat, coughing, chest discomfort, shortness of breath and reduced lung function (breathing obstruction). Persons with a preexisting, nonspecific bronchial hyperactivity can respond to concentrations below the TLV with similar symptoms as well as asthma attack. Exposure well above the TLV may lead to bronchitis, bronchial spasm and pulmonary edema (fluid in the lungs). These effects are usually reversible. Chemical or hypersensitive pneumonitis, with flu-like symptoms (e.g. fever, chills), has also been reported. These symptoms can be delayed up to several hours after exposure.

Ingestion:

ORAL, LD50 > 5800 mg/kg (Rats). Can result in irritation and corrosive action in the mouth, stomach tissue and digestive tract. Symptoms can include sore throat, abdominal pain, nausea, vomiting and diarrhea.

Eye Contact:

Strongly irritating (Rabbits) OECD Guidelines. Liquid, aerosols or vapors are severely irritating and can cause pain, tearing, reddening and swelling. If left untreated, corneal damage can occur and injury is slow to heal. however, damage is usually reversible.

Skin Contact:

Skin sensitizer in guinea pigs. One study with guinea pigs reported that repeated skin contact with TDI caused respiratory sensitization. Isocyanates react with skin protein and moisture and can cause irritation which may include the following symptoms: reddening, swelling, rash, scaling or blistering. Cured material is difficult to remove.

Skin Absorption:

ND

CHRONIC TOXICITY

Carcinogenicity:

--X-Yes: --X---NTP --X----IARC ----Federal OSHA

In a DRAFT of a lifetime bioassay, the National Toxicology Program reported that TDI caused an increase in the number of tumors in exposed rats over those counted in non-exposed rats. The TDI was administered by gavage where TDI was introduced into the stomach through a tube. In lifetime inhalation studies conducted by Hazelton Labs for the International Isocyanate Institute, TDI did NOT demonstrate carcinogenic activity in rats or mice.

Target Organ Affected:

No specific information available.

Effects of Overexposure:

Inhalation:

Inhalation of TDI vapors at concentrations above allowable limits can produce irritation of the mucous membranes in the respiratory tract resulting in running nose, sore throat, productive cough and a reduction in lung function (breathing obstruction). As a result of previous repeated overexposures or a single large dose, certain individuals may develop isocyanate sensitization (chemical asthma) which will cause them to react to a later exposure to isocyanate at levels well below the TLV. Another type of response is hyperreactivity or hypersensitivity, in which persons, (as a result of a previous repeated overexposure or large single dose), can respond to small TDI concentrations at levels well below the .02ppm. Symptoms could be immediate or delayed and include chest tightness, wheezing, cough, shortness of breath or asthmatic attack. Hypersensitivity pneumonitis (with similar respiratory symptoms and fever which has been delayed) has also been reported. Similar to many non-specific asthmatic responses, there are reports that once sensitized an individual can experience these symptoms upon exposure to dust, cold air or other irritants. This increased lung sensitivity can persist for weeks and in severe cases for several years. Chronic overexposure to isocyanate has also been reported to cause lung damage (including decrease in lung function) which may be permanent. Sensitization can either be temporary or permanent.

Eyes:

Liquid, vapors or aerosols are severely irritating to the eyes and can cause tears. Prolonged vapor contact may cause conjunctivitis. Corneal injury can occur which can be slow to heal; however damage is usually reversible.

Skin:

TDI reacts with skin protein and tissue moisture and can cause localized irritation as well as discoloration. Prolonged contact could produce reddening, swelling, or blistering and, in some individuals, skin sensitization resulting in dermatitis. Once sensitized a individual can develop recurring symptoms as a result of exposure to vapor.

Ingestion:

Ingestion could result in irritation and some corrosive action in the mouth, stomach tissue and digestive tract. Symptoms can include sore throat, abdominal pain, nausea, vomiting and diarrhea.

Medical Conditions Aggravated By Exposure

Asthma, other respiratory disorders (bronchitis, emphysema, bronchial hyperreactivity), skin allergies, eczema.

FIRST AID: EMERGENCY PROCEDURES

Eye Contact:

Flush with clean, lukewarm water (low pressure) for at least 15 minutes, occasionally lifting eyelids, and obtain medical attention. Refer individual to an ophthalmologist for immediate follow-up.

Skin Contact:

Remove contaminated clothing. Wash effected areas thoroughly with soap or tincture of green soap and water. Wash contaminated clothing thoroughly before reuse. For severe exposures, get under safety shower, remove clothing under shower, get medical attention, and consult physician.

Inhalation:

Move to an area free from risk of further exposure. Administer oxygen or artificial respiration as needed. Obtain medical attention. Asthmatic-type symptoms may develop and be immediate or delayed up to several hours. Consult physician.

Ingested:

Do not induce vomiting. Give 12 fl. oz. of milk or water to drink. DO NOT GIVE ANYTHING BY MOUTH TO AN UNCONSCIOUS PERSON. Consult physician.

Recommendations to Physician:

Eyes: Stain for evidence of corneal injury. If cornea is burned, instill antibiotic steroid preparation frequently. Workplace vapors have produced reversible corneal epithelial edema impairing vision. This compound is a known skin sensitizer. Treat symptomatically as for contact dermatitis or thermal burns. There is no specific antidote for ingestion treat symptomatically. Inducing vomiting is contraindicated because of the irritating nature of this compound. TDI is a known pulmonary sensitizer. Treatment is essentially symptomatic. An individual having a skin or pulmonary sensitization reaction to this material should be removed from exposure to any isocyanate.

===== VI. REACTIVITY DATA =====

Stability: --XX-Stable -NA--Unstable

Conditions to Avoid: Temperatures higher than recommended in product literature.

Incompatibility (materials to avoid):

Water, short chain alcohols, amines

Hazardous Decomposition Products

By heat and fire: carbon dioxide, carbon monoxide, oxides of nitrogen and traces of hydrogen cyanide, TDI.

Hazardous Polymerization: NA-May Occur X-Will not occur

Conditions to avoid:

ND

===== VII. SPILL, LEAK AND DISPOSAL PROCEDURES =====

Steps to be taken if material is released or spilled:

Consult section VIII for proper protective equipment.

Cover the spill with sawdust, vermiculite, Fuller's earth or other absorbent material. Pour decontamination solution over the spill area and allow to react for at least 10 minutes. Collect the material in open top containers and add additional amounts of decontamination solution. Remove containers to a safe place, cover loosely, and allow to stand for 24 to 48 hours. Wash down spill area with decontamination solutions. Decontamination solutions: non-ionic surfactant Union Carbide's Tergitol TMN-10(20%) and water (80%); or concentrated ammonia (3-8%), detergent (2%), and water (90%). During spill clean-up, a self contained breathing apparatus or air line respirator and protective clothing must be worn. (See section VIII). Reportable Quantity CERCLA: 100lbs

Waste Disposal Method:

Dispose according to any Local, State and Federal Regulations.

===== VIII. SPECIAL HANDLING INFORMATION =====

Respiratory Protection:

A positive pressure air-supplied respirator is required whenever TDI concentrations exceed the Short-Term Exposure or Ceiling Limit of .02ppm or exceed the 8 hour Time Weighted Average TLV of 0.005 ppm. An air supplied respirator must also be worn during spray application, even if exhaust ventilation is used. For non-spray , short-term(less than 1 hour) situations where concentrations are near the TLV, a full face, air-purifying respirator equipped with organic cartridges or canisters can be used. However, TDI has poor warning properties since the odor at which TDI can be smelled is substantially higher than the 0.02 ppm. Therefore, proper fit and timely replacement of filter elements must be ensured. Observe OSHA regulations for respirator use. (29CFR 1910.134).

Ventilation:

Local exhaust should be used to maintain levels below the TLV whenever TDI containing material is handled, processed, or spray-applied. At normal room temperatures (70 F) TDI levels quickly exceed the TLV unless properly ventilated. Standard reference sources regarding industrial ventilation (e.g., ACGIH INDUSTRIAL VENTILATION) should be consulted for guidance about adequate ventilation.

Protective Gloves: Chemical resistant gloves (butyl rubber, nitrile rubber, polyvinyl alcohol). However, please note that PVA degrades in water.

Eye Protection:

Liquid chemical goggles or full face shield should be worn. Contact lenses should not be worn. Other Protective Clothing or Equipment: Safety showers and eyewash stations should be available. Cover as much of exposed skin as possible with appropriate clothing.

Work Practices, hygienic practices
Educate and train employees in safe use of product. Follow
all label instructions.

===== IX SPECIAL PRECAUTIONS =====

Handling and Storage:

Store in tightly closed containers to prevent moisture
contamination. Do not reseal if contamination is suspect.

Other Precautions:

Avoid contact with eyes and skin. Do not breathe the
vapors.

===== X ADDITIONAL INFORMATION =====

SARA Title III Requirements:

TDI is on the Extremely Hazardous Substance.

Chemical Name	Section: 302	CERCLA	313
Toluene 2,4 Diisocyanate	TPQ-500 LBS	RQ-100 LBS	YES

T.S.C.A. Status: On Inventory

=====

Name(print): George C. Karpin !This formulation is subject
Signature: *George C. Karpin* !to change without notice.
Title: Toxicological Coordinator!In case of accident use the
Date of last revision 5/25/89!phone number provided.

=====

To the best of our knowledge, the information contained
herein is accurate and meets all state and federal
guidelines. However, CONAP INC. does not assume any liability
whatsoever for the accuracy or completeness of the
information contained herein. All materials may present
unknown hazards and should be used with caution. Although
certain hazards are described herein, we cannot guarantee
that these are the only hazards which exist. Final
determination of the suitability of any material is the
sole responsibility of the user.

////////////////////////////////////

Date approved 5/26/89 Approved: *W. J. Puller*

ND=Not Determined

NA=Not Applicable

5/26/89 Approved: *A. H. Williamson*

MATERIAL SAFETY DATA SHEET

NI 003
NPCA 1-7
#00310

FOR COATINGS, RESINS AND RELATED MATERIALS

(Approved by U.S. Department of Labor "Essentially Similar" to Form OSHA-20)

DATE OF PREP.
November 15, 1985

Section I

MANUFACTURER'S NAME NORTHERN INDUSTRIAL MAINTENANCE

STREET ADDRESS 3000 Industrial Blvd. CITY, STATE, AND ZIP CODE Bethel Park, PA 15102

EMERGENCY TELEPHONE NO. 1-800-831-7100 800 558 4100

PRODUCT CLASS Isocyanate Prepolymer bases on TDI MANUFACTURERS CODE IDENTIFICATION

TRADE NAME POLYMER SEAL #00310

Section II - HAZARDOUS INGREDIENTS

INGREDIENT	PERCENT	TLV		LEL	VAPOR PRESSURE
		PPM	mg/M ³		
Meta, Ortho, and Para Xylene	64.0	100	435	1.0%	9.5 mm/hg
Unreacted Toluene Diisocyanate Monomer	1	0.005	0.04	0.9%	0.1 mm/hg

Section III - PHYSICAL DATA

BOILING RANGE 280-288° F Xylene VAPOR DENSITY ☒ HEAVIER. ☐ LIGHTER THAN AIR

EVAPORATION RATE ☐ FASTER ☒ SLOWER THAN ETHER PERCENT VOLATILE BY VOLUME 66% WEIGHT PER GALLON 7.9 lbs.

Section IV - FIRE AND EXPLOSION HAZARD DATA

DOT CATEGORY D.O.T. Flammable Liquid FLASH POINT 77° F SETA C.C. LEL

EXTINGUISHING MEDIA Dry chemical, foam, CO₂

USUAL FIRE AND EXPLOSION HAZARDS Keep away from heat, sparks, and open flame

SPECIAL FIRE FIGHTING PROCEDURES Fight as volatile liquid fire. Use water to keep fire-exposed containers cool to reduce pressure. Wear self-contained breathing apparatus.

Section V — HEALTH HAZARD DATA

THRESHOLD LIMIT VALUE See Section II. "Skin" notation for Xylene.

EFFECTS OF OVEREXPOSURE

INHALATION: Irritation of the nose, throat and eyes, possible bronchitis. May be accompanied by coughing, choking or labored breathing. Asthma-like breathing may be delayed reaction. Causes skin and eye discomfort by defatting action. May cause lung irritation and allergic respiratory reaction.

EMERGENCY AND FIRST AID PROCEDURES Remove patient to fresh air. Remove saturated clothing and wash skin thoroughly, preferable with tincture of green soap or soap and water. Flush with clean water for 15 minutes. If symptoms persist, seek medical attention. Wash clothing before reuse.

Section VI — REACTIVITY DATA

STABILITY ☐ UNSTABLE ☒ STABLE **CONDITIONS TO AVOID** N/A
INCOMPATIBILITY (Materials to avoid) Avoid contact with strong oxidizing agents.

HAZARDOUS DECOMPOSITION PRODUCTS Usual products of combustion - CO, CO₂, and possible oxides of nitrogen.

HAZARDOUS POLYMERIZATION ☐ MAY OCCUR ☒ WILL NOT OCCUR
CONDITIONS TO AVOID N/A

Section VII — SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED Remove all sources of ignition. Provide ventilation and/or respiratory protection. Large spills may be picked up with non-sparking tools, small spills with absorbent material. Residues may be decontaminated with water/alcohol or ammonia solutions.
WASTE DISPOSAL METHOD Refer to Section IX

Section VIII — SPECIAL PROTECTION INFORMATION

RESPIRATORY PROTECTION Approved masks or respirators for organic vapors and particulate matter as necessary. If spraying in poorly ventilated area, positive pressure air supplied masks are recommended.

VENTILATION Designed and maintained to provide volume and pattern to prevent vapor concentration in excess of TLV or LEL.

PROTECTIVE GLOVES Neoprene rubber gloves

FACE PROTECTION Goggles or side-shield spectacles

OTHER PROTECTIVE EQUIPMENT Eye wash station and safety showers should be available

Section IX — SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING Store away from heat, sparks and open flame. Avoid prolonged skin contact. Do not breathe spray mist.

OTHER PRECAUTIONS Ground containers while pouring and limit free fall to a few inches to prevent static sparks. Emptied containers may retain hazardous properties. Do not cut, puncture or weld on or near the container.

WASTE DISPOSAL METHOD: Place in closed containers. If necessary to decontaminate, do not close containers until evolution of CO₂ is complete. Incinerate (first open closed containers) or use secure land fill in accordance with local, state, and federal regulations.

DOT STORAGE CATEGORY: Flammable Liquid - Class IC

SAFETY DATA

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JAN 5 1984

C. A. OATTES

EMERGENCY/SAFETY INFORMATION: (617) 935-4850

CR: (617) 935-8530

ADDITIONAL MSDS: (617) 828-3500

DOCUMENT NO.: 330033

EC008

SECTION I - IDENTIFICATION

PRODUCT NAME: EC00FSAM PF

Chemical Chemical Description: Isocyanate Prepolymer

SECTION II - INGREDIENTS

Hazardous Ingredients	% by Weight	Flash Point (°F)	Maximum Exposure Value (ppm) (8 hour time-weighted average)	
			OSHA PEL	ACGIH TLV
Isocyanate Diisocyanate	< 20.0	270	0.02 ppm	0.005 ppm
CAS #: 534-34-7				

Hazardous Ingredients	% by Weight
Isocyanate prepolymers, pigments.	> 80.0

SECTION III - PHYSICAL DATA

Boiling Point (°F): Not Determined	Specific Gravity (water=1): 1.12
Vapor Pressure at 25°C: Negligible	Solubility in water: Slightly soluble.
Volatiles (% by weight): Negligible	Vapor Density: Heavier than air
Color and odor: Red liquid	
Water may initiate polymerization.	

REVISION: 11/18/89

PAGE 1

SAFETY DATA

ECCOFOAM FP

SECTION VI-SPILL OR LEAK PROCEDURES

note: Protective gloves, clothing, respiratory protection and chemical splash goggles must be worn during entire clean-up procedure.

for small spills: Turn on ventilation equipment to evacuate vapors from the area. Wipe up or absorb with vermiculite or other absorbent material.

collect waste in sealed containers.

clean area with soapy water and rinse. Prevents rinses from entering drains or other openings.

spilled material and water rinses are classified as chemical waste, and must be disposed of in accordance with current local, state, and federal regulations.

for large spills: Turn on ventilation equipment to evacuate vapors from the area.

non-essential personnel should be evacuated from immediate area.

like area to contain spilled material and to prevent runoff into drains, sewers, and other openings.

cover or pump to drum or salvage tank.

cover residual material with sand, vermiculite, or other absorbent material.

cover or shovel absorbed waste and absorbent into containers.

separately scrub residual material of aqueous 1% ammonia and 5% isopropanol.

collect water rinses in D.O.T.-approved containers, separate from material absorbed with vermiculite.

discolored material may be scraped up and disposed of separately.

spilled material and water rinses are classified as hazardous waste, and must be disposed of in accordance with current local, state, and federal regulations.

SECTION VII-SPECIAL PRECAUTIONS

personal Protection: Avoid skin and eye contact. Protective gloves and clothing, and eye goggles with side shields must be worn. Avoid breathing vapors. Use only with adequate ventilation.

storage: Store in cool, dry place; keep removed from any heat or open flame. Keep container closed when not in use. Do not expose to moisture: moisture will make product unusable.

ventilation Requirements: Flexible ductwork should extend to areas of high concentration to prevent local buildup of vapor. NIOSH-approved self-contained breathing apparatus should be used in the absence of mechanical ventilation when working with large quantities of material.

fire hazard/ Explosion Precautions: Keep away from intense heat, open flames.

SAFETY DATA

ECCOFOAM FF

Effects of Chronic Overexposure: Overexposure to toluene diisocyanate has resulted in decreased pulmonary function and fibrosis in workers. Oral gavage administration of MDI in corn oil to rats and mice for two years resulted in an increased incidence of tumors. Six hour daily inhalation exposures to rats and mice of 0.05 and 0.15 ppm MDI for two years did not produce tumors. Since inhalation is the usual route of human exposure, the carcinogenic potential of MDI to humans has not been established. However, TDI is included in the NTP list of substances reasonably anticipated to be carcinogenic in humans.

GET MEDICAL ATTENTION IF SYMPTOMS PERSIST

Special Firefighting Procedures:

Full emergency equipment with self contained breathing apparatus should be worn by fire fighters. During a fire irritating and highly toxic gases and smoke are present from decomposition/combustion. Isolate from heat, electrical equipment, sparks and open flame.

Unusual Fire and Explosion Hazards:

Closed container may explode when exposed to extreme heat or burst when contaminated with water (CO₂ evolved). Solvent vapors may be heavier than air. Under conditions of stagnant air, vapors may build up and travel along the ground to an ignition source which may result in a flash back to the source of the vapors.

===== V. HEALTH HAZARD INFORMATION ===== ACUTE TOXICITY (Routes of entry)

Inhalation:

Information on PMA: In short term, repeated inhalation exposure to nearly saturated vapor (4000ppm), test animals showed a slight effect on kidneys or kidney function. Prolonged contact with intact and abraded rabbit skin showed no irritation and potential to produce systemic toxicity via skin absorption is low. Skin sensitization tests in guinea pigs were negative.

TDI vapors or mist at concentrations above the TLV can irritate (burning sensation) the mucous membranes in the respiratory tract (nose, throat, lungs) causing runny nose, sore throat, coughing, chest discomfort, shortness of breath and reduced lung function (breathing obstruction). Persons with a preexisting, nonspecific bronchial hyperreactivity can respond to concentrations below the TLV with similar symptoms as well as asthma attack. Exposure well above the TLV may lead to bronchitis, bronchial spasm and pulmonary edema (fluid in the lungs). These effects are usually reversible. Chemical or hypersensitive pneumonitis, with flu-like symptoms (e.g., fever, chills). has also been reported. These symptoms can be delayed up to several hours after exposure. Solvent vapors are irritating to the eyes, nose, and throat. Symptoms of irritation can include: red, itchy eyes, dryness of the throat and tightness in the chest. other possible symptoms of overexposure include: headache, nausea, narcosis, fatigue and loss of appetite. A concentration of 10,000ppm of xylene has been determined to be immediately dangerous to life or health.

Ingestion:

Can result in irritation in the mouth, stomach tissue and digestive tract. Symptoms can include sore throat, abdominal pain, nausea, vomiting and diarrhea, Vomiting may cause aspiration resulting in chemical pneumonitis.

Oral LD50 based on 100% solid polymeric resin > 25 g/Kg (Rat)

Eye Contact:

Liquid, aerosols or vapors are severely irritating and can

C O N A P I N C .
1405 Buffalo St.
Olean, New York 14760
716/372-9650

===== MATERIAL SAFETY DATA SHEET =====

Note: This form is to be used to comply with OSHA's Hazard Communication Standard, 29 CFR 1910.1200. Blank spaces are not permitted.

===== I. IDENTIFICATION =====

Trade Name: Conathane CE-1155-35 Part A Date: 7/21/89
Chemical Name, common name: Complex Mixture; Toluene Diisocyanate based adduct 3*31

===== II. HAZARDOUS INGREDIENTS =====

Chemical Names	CAS No.	%	ACGIH(TLV)	OSHA(PEL)	Other
Xylene	1330-20-7	10-20%	100ppm	ND	ND

Propylene glycol methyl ether acetate (PMA)
108-65-6 20-30% ND ND ND

Based on PMA's similarity to 2-methoxypropanol an exposure limit of 100ppm TWA is recommended.

Toluene Diisocyanate
584-84-9 NA .005ppm TWA .02ppm ceiling
Free monomer content maximum of 0.7% based on resin solids.

Aromatic Polyisocyanate 60% ND ND ND

Toluene 108-88-3 10-30% 100ppm(TWA) 100ppm TWA ND
150ppm STEL 15 minutes

Cured material may be hazardous if soldered through after or during curing. Toxic vapors will be generated when heated to high temperature. Material may present a dust hazard if cut, ground, or Machined after curing..

===== PHYSICAL DATA =====

Boiling Point: ND !Specific Gravity (H2O=1): 1.05
Vapor Pressure, mm Hg: PMA 3.7mm Hg @ 20C; Xylene: 8mm Hg @ 25C

Vapor Density (air=1): Xylene 3.7

Melting Pt./Range: NA !Evaporation rate (Ether=1): ND

Solubility in Water: Reacts !Physical State: Liquid

Percent volatile by volume: 40% by weight

Appearance and Odor: Clear yellow viscous liquid, solvent odor

===== IV. FIRE AND EXPLOSION DATA =====

Flash Point, F (Method): >45 TCC

Flammable Limits: LEL: UEL:

Extinguishing Materials:

XX-Dry Chemical -XX-Carbon Dioxide

XX--Foam ----Other:

cause pain, tearing, reddening and swelling. If left untreated, corneal damage can occur and injury is slow to heal, however, damage is usually reversible.

(Based on 100% solid polymeric resin.) Mechanical irritation observed.

Skin Contact:

Isocyanates react with skin protein and moisture and can cause irritation which may include the following symptoms: reddening, swelling, rash, scaling or blistering. Cured material is difficult to remove. Repeated or prolonged skin contact with xylene, Toluene and PMA can result in dry, defatted and cracked skin causing increased susceptibility to infection. In addition, skin irritation (i.e. redness, swelling) that may develop into dermatitis may occur from skin contact. Solvents may penetrate the skin causing effects similar to those identified under acute inhalation exposure.

(Based on 100% solid polymeric resin.) Dermal LD50 greater than 6.5 g/Kg (Rabbit).

Skin Absorption:

ND

CHRONIC TOXICITY

Carcinogenicity:

XXX-Yes: -XXX--NTP -ND---IARC ND--Federal OSHA

In a draft of a lifetime bioessay, the National Toxicology Program reported that TDI caused an increase in the number of tumors in exposed rats over those counted in non-exposed rats. The TDI was administered by gavage, where TDI was introduced into the stomach through a tube. In lifetime inhalation studies conducted by Hazelton Labs for the International Isocyanate Institute, TDI did not demonstrate carcinogenic activity in rats or mice.

Target Organ Affected:

Reports have associated repeated and prolonged occupational exposure to solvents with permanent brain and nervous system, lung and kidney damage.

Overexposure to Xylene has been found to cause anemia, liver abnormalities, kidney damage, eye damage and cardiac abnormality.

Overexposure to Methoxy Propanol Acetate (PMA) has been associated with injury to the liver and kidney. Eye contact may cause corneal injury.

Effects of Overexposure:

Inhalation:

Irritation of the nose, throat and eyes, dizziness, weakness, fatigue, nausea, headache, possibly narcosis and asphyxiation. May be accompanied by coughing, choking or labored breathing. Asthma like breathing may be a delayed reaction. Vapor, spray mist or liquid causes skin and eye discomfort due to defatting action. Isocyanates can cause

lung sensitization. Allergic respiratory reaction may occur in sensitized individuals when exposure to TDI is below the TLV. Can cause lung injury .

As a result of previous repeated overexposures or single large dose, certain individuals may develop isocyanate sensitization (chemical asthma) which will cause them to react to a later exposure to isocyanate at levels well below the TLV. These symptoms, which can include chest tightness, wheezing, cough, shortness of breath or asthmatic attack, could be immediate or delayed up to several hours after exposure, Similar to many non-specific asthmatic responses, there are reports that once sensitized an individual can experience these symptoms upon exposure to dust, cold air or other irritants, This increased lung sensitivity can persist for weeks and in severe cases for several years. Chronic overexposure to isocyanate has also been reported to cause lung damage (including decrease in lung function) which may be permanent, Sensitization can either be temporary or permanent.

Chronic exposure to organic solvents has been associated with various neurotoxic effects including permanent brain and nervous system damage. Symptoms include loss of memory, loss of intellectual ability and loss of coordination.

Skin Contact:

Prolonged and repeated contact with skin can cause dermatitis and possibly skin sensitization. Prolonged contact can cause reddening, swelling, rash, scaling, blistering, and, in some cases, skin sensitization. Individuals who have developed a skin sensitization can develop these symptoms as a result of contact with very small amounts of liquid material or as a result of exposure to vapor. Chronic skin exposure to the solvent may cause effects similar to those identified under chronic inhalation effects.

Ingestion:

May cause irritation of the mouth and esophagus.

Eye contact:

Expected to be very irritating. Prolonged contact may cause conjunctivitis.

Medical Conditions Aggravated By Exposure

Dermatitis, Asthma, other respiratory disorders (bronchitis, emphysema, bronchial hyperreactivity), skin allergies, eczema.

FIRST AID: EMERGENCY PROCEDURES

Eye Contact:

Flush with clean luke warm water (low pressure) for at least 15 minutes, occasionally lifting the eyelids. Obtain medical attention. Refer individual to an ophthalmologist for immediate follow-up.

Skin Contact:

Remove contaminated clothing. Wash affected skin areas with soap and water. Wash contaminated clothing thoroughly before re-use. For severe exposures, get under safety shower and remove clothing. Get medical attention.

Inhalation:

Move to an area free from risk of further exposure. Administer oxygen or artificial respiration as needed. Obtain medical attention. Asthmatic-type symptoms may develop and may be immediate or delayed up to several hours.

Ingested:

Consult physician. DO NOT INDUCE VOMITING. Give a glass of milk or water to drink. DO NOT GIVE ANYTHING BY MOUTH TO AN UNCONSCIOUS PERSON.

Recommendations to Physician:

Eyes: Stain for evidence of corneal injury. If cornea is burned, instill antibiotic steroid preparation frequently. Workplace vapors have produced reversible corneal epithelial edema impairing vision. SKIN: Treat as contact dermatitis. If burned, treat as thermal burn. RESPIRATORY: Treatment is essentially symptomatic.

===== VI. REACTIVITY DATA =====

Stability: --XX-Stable -----Unstable

Conditions to Avoid:

Contact with moisture and other materials which react with isocyanates. Temperatures which exceed the maximum storage temperature.

Incompatibility (materials to avoid):

Avoid contact with water, alcohols, amines, strong bases, metal compounds or surface active materials. Strong oxidizers.

Hazardous Decomposition Products

Carbon dioxide, carbon monoxide, trace of hydrogen cyanide, oxides of nitrogen.

Hazardous Polymerization: --May Occur XX-Will not occur

Conditions to avoid:

None

===== VII. SPILL, LEAK AND DISPOSAL PROCEDURES =====

Steps to be taken if material is released or spilled:

Consult section VIII for proper protective equipment.

Evacuate non-essential personnel. Remove all sources of ignition. Ventilate the area. Dike or impound spilled material and control further spillage if leasable. Notify appropriate authorities if necessary. Cover spill with sawdust, vermiculite, Fuller's earth or other absorbent material; pour liquid decontaminant over spillage and allow to react at least ten minutes; collect material in OPEN containers and add further amounts of decontamination solution. Remove containers to safe place. Cover loosely. Wash down area with liquid decontaminant and flush spill area with water.

Decontamination solutions: Ammonium hydroxide (0-10%),

detergent (2-5%) and balance water; or solution of Union Carbide's Tergitol TMN-10 (20%) and water (80%).

Waste Disposal Method:

Dispose of according to any Local, State and Federal Regulations. Empty containers must be handled with care due to product residue and flammable solvent vapor. Decontaminate containers prior to disposal. DON NOT HEAT OR CUT EMPTY CONTAINER WITH ELECTRIC OR GAS TORCH.

===== VIII. SPECIAL HANDLING INFORMATION =====

Respiratory Protection:

Follow OSHA regulation 29CFR1910.134 for respirator use. Use air-purifying respirator that respirator supplier has demonstrated to be effective for solvent and isocyanate vapors, when concentrations exceed the TLV up to the maximum level at which the respirator is effective. Where overspray is present, or if the concentration of solvents or isocyanates is not known or exceeds the level at which the air-purifying respirator is effective, a positive pressure air-supplied respirator (TC19C NIOSH/MSHA) is recommended. The use of a positive pressure supplied air respirator is mandatory when: airborne isocyanate concentrations are not known, either of the above guidelines are exceeded, or if spraying is performed in a confined space or area with limited ventilation.

It is possible to be exposed to airborne solvent or isocyanate vapors even during non-spray operations such as mixing, and brush or roller application, depending on the conditions of application. For example, heating of material or application to a hot substrate may increase emissions from the coating. Therefore, when airborne concentrations during such non-spray operations exceed the TLV of 0.005 ppm for isocyanate monomer, but are below 0.05 ppm, at least an air purifying (organic vapor) respirator is required. If airborne concentrations are unknown or exceed 0.05ppm: or if operations are performed in a confined space, a supplied air respirator must be worn. In addition, solvent concentrations should be considered when determining the selection and use of a respirator.

Ventilation:

Designed and maintained to provide volume and pattern to prevent vapor concentration in excess of TLV or LEL. Exhaust air may need to be cleaned by scrubbers or filters to reduce environmental contamination.

Protective Gloves: Neoprene rubber gloves

Eye Protection:

Goggles or full face shield. Contact lenses should not be worn.

Other Protective Clothing or Equipment:

Eye wash station and safety shower should be available.

Work Practices, hygienic practices

Use good industrial hygiene. Wash after handling the material

===== IX SPECIAL PRECAUTIONS =====

Handling and Storage:

Closed containers may explode when exposed to extreme heat. Store between 32 F(0C)/122F(50C). Store in tightly closed container and protect from moisture and foreign materials. At maximum storage temperature noted, material may slowly polymerize without hazard. Ideal storage temperature range is 50-81 F (10-27C).

Other Precautions:

Avoid sparks and open flames.

===== X Additional Information =====

SARA Title III Requirements:

Chemical Name Section: 302 CERCLA 313

Toluene Diisocyanate	Listed	RQ\100LB	Listed
Xylene	NA	RQ\1000LB	Listed
Toluene	NA	RQ\1000LB	Listed

T.S.C.A. Status: On Inventory

Name(print): George C. Karpin !This formulation is subject
Signature: *George C. Karpin* !to change without notice.
Title: Toxicological Coordinator!In case of accident use the
Date last revision 7/21/89 !phone number provided.

To the best of our knowledge, the information contained herein is accurate and meets all State and Federal guidelines. However, CONAP INC. does not assume any liability what so ever for the accuracy or completeness of the information contained herein. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards which exist. Final determination of the suitability of any material is the sole responsibility of the user.

////////////////////////////////////

Date approved: 7/21/89 Approved: *Will Pollard*

ND=Not Determined

NA=Not Applicable

Date approved: 7/21/89 Approved: *Rich Williamson*

General Instructions:

If you are reporting on a mixture as defined in the glossary, reply to questions in Section 4 that are inappropriate to mixtures by stating "NA -- mixture."

For questions 4.06-4.15, if you possess any hazard warning statement, label, MSDS, or other notice that addresses the information requested, you may submit a copy or reasonable facsimile in lieu of answering those questions which it addresses.

PART A PHYSICAL/CHEMICAL DATA SUMMARY

- 4.01 Specify the percent purity for the three major¹ technical grade(s) of the listed substance as it is manufactured, imported, or processed. Measure the purity of the substance in the final product form for manufacturing activities, at the time you import the substance, or at the point you begin to process the substance.

☐

NA - mixture

	<u>Manufacture</u>	<u>Import</u>	<u>Process</u>
Technical grade #1	_____ % purity	_____ % purity	_____ % purity
Technical grade #2	_____ % purity	_____ % purity	_____ % purity
Technical grade #3	_____ % purity	_____ % purity	_____ % purity

¹Major = Greatest quantity of listed substance manufactured, imported or processed.

- 4.02 Submit your most recently updated Material Safety Data Sheet (MSDS) for the listed substance, and for every formulation containing the listed substance. If you possess an MSDS that you developed and an MSDS developed by a different source, submit your version. Indicate whether at least one MSDS has been submitted by circling the appropriate response.

Yes 1

No

Indicate whether the MSDS was developed by your company or by a different source.

Your company

Another source 2

☐ Mark (X) this box if you attach a continuation sheet.

4.03 Submit a copy or reasonable facsimile of any hazard information (other than an MSDS) that is provided to your customers/users regarding the listed substance or any formulation containing the listed substance. Indicate whether this information has been submitted by circling the appropriate response.

Yes

No **NA**

4.04 For each activity that uses the listed substance, circle all the applicable number corresponding to each physical state of the listed substance during the activity listed. Physical states for importing and processing activities are determined at the time you import or begin to process the listed substance. Physical states for manufacturing, storage, disposal and transport activities are determined using the final state of the product.

CBI

☐

Activity	Physical State				
	Solid	Slurry	Liquid	Liquified Gas	Gas
Manufacture	1	2	3	4	5
Import	1	2	3	4	5
Process	1	2	3	4	5
Store	1	2	3	4	5
Dispose	1	2	3	4	5
Transport	1	2	3	4	5

☐ Mark (X) this box if you attach a continuation sheet.

- 4.05 Particle Size -- If the listed substance exists in particulate form during any of the following activities, indicate for each applicable physical state the size and the percentage distribution of the listed substance by activity. Do not include particles ≥ 10 microns in diameter. Measure the physical state and particle sizes for importing and processing activities at the time you import or begin to process the listed substance. Measure the physical state and particle sizes for manufacturing storage, disposal and transport activities using the final state of the product.

CBI

☐

Physical
State

Manufacture

Import

Process

Store

Dispose

Transport

Dust

<1 micron

1 to <5 microns

5 to <10 microns

Powder

<1 micron

1 to <5 microns

5 to <10 microns

Fiber

<1 micron

1 to <5 microns

5 to <10 microns

Aerosol

<1 micron

1 to <5 microns

5 to <10 microns

☐ Mark (X) this box if you attach a continuation sheet.

PART 3 FIRE, EXPLOSION, AND OTHER HAZARD DATA

- 4.06 For each physical state of the listed substance, specify the corresponding flashpoint, and the test method used to derive the flashpoint value.

Solid

Flashpoint _____

Test method _____

Liquid

Flashpoint _____

Test method _____

Gas/Vapor

Flashpoint _____

Test method _____

Indicate if hazard information/MSDS has been submitted in lieu of response by circling the appropriate response.

Yes _____

No _____

- 4.07 Indicate the temperature at which the listed substance undergoes autopolymerization or autodecomposition.

Autopolymerizes at _____ °

Autodecomposes at _____ °

Indicate if hazard information/MSDS has been submitted in lieu of response by circling the appropriate response.

Yes _____ (1)

No _____ 2

☐ Mark (X) this box if you attach a continuation sheet.

PART A RATE CONSTANTS AND TRANSFORMATION PRODUCTS

5.01 Indicate the rate constants for the following transformation processes.

a. Photolysis:

Absorption spectrum coefficient (peak) UK (1/M cm) at _____ --
 Reaction quantum yield, ϕ UK at _____ nm
 Direct photolysis rate constant, k_p , at ... UK 1/hr _____ latitude

b. Oxidation constants at 25°C:

For 1O_2 (singlet oxygen), k_{ox} UK 1/M
 For RO_2 (peroxy radical), k_{ox} UK 1/M

c. Five-day biochemical oxygen demand, BOD_5 ... UK mg/l

d. Biotransformation rate constant:

For bacterial transformation in water, k_b ... UK 1/hr
 Specify culture UK

e. Hydrolysis rate constants:

For base-promoted process, k_b UK 1/M
 For acid-promoted process, k_a UK 1/M
 For neutral process, k_n UK 1/hr

f. Chemical reduction rate (specify conditions) UK

g. Other (such as spontaneous degradation) ... _____

NOTE: No suppliers contacted could provide environmental fate data for their materials

☐ Mark (X) this box if you attach a continuation sheet.

PART B PARTITION COEFFICIENTS

5.02 a. Specify the half-life of the listed substance in the following media.

<u>Media</u>	<u>Half-life (specify units)</u>
Groundwater	UK
Atmosphere	
Surface water	
Soil	

b. Identify the listed substance's known transformation products that have a half-life greater than 24 hours.

<u>CAS No.</u>	<u>Name</u>	<u>Half-life (specify units)</u>	<u>Media</u>
UK			in
			in
			in
			in

5.03 Specify the octanol-water partition coefficient, K_{ow} ... UK at 25°C
 Method of calculation or determination

5.04 Specify the soil-water partition coefficient, K_d UK at 25°C
 Soil type

5.05 Specify the organic carbon-water partition coefficient, K_{oc} UK at 25°C

5.06 Specify the Henry's Law Constant, H UK atm-cm³/mole

☐ Mark (X) this box if you attach a continuation sheet.

5.07 List the bioconcentration factor (BCF) of the listed substance, the species for which it was determined, and the type of test used in deriving the BCF.

<u>Bioconcentration Factor</u>	<u>Species</u>	<u>Test</u>
AK		

Use the following codes to designate the type of test:

F = Flowthrough
S = Static

☐ Mark (X) this box if you attach a continuation sheet.

SECTION 6 ECONOMIC AND FINANCIAL INFORMATION

6.01 Company Type -- Circle the number which most appropriately describes your company.

CBI

- ☒ Corporation 1
- ☐ Sole proprietorship 2
- ☐ Partnership 3
- ☐ Other (specify) _____ 4

6.02 At the end of the reporting year, were you constructing additional facilities at this site that were not yet in operation at the end of the reporting year, but which are now being used or will be used in the future for manufacturing, importing, or processing the listed substance? Circle the appropriate response.

CBI

- ☐ Yes 1
- ☒ No 2

6.03 List all of the product types that you manufacture that contain the listed substance as a raw material, and the percentage of the name-plate capacity dedicated to the listed substance that each product type represents. The total of all capacity percentiles should equal 100 percent. State the total name-plate capacity of the process type(s) used to manufacture all product types that contain the listed substance.

CBI

☐

Product Type	% Total Capacity
NA	

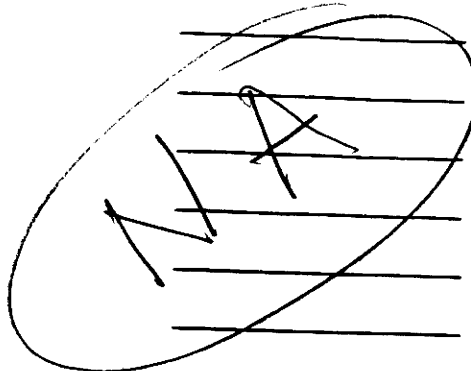
State the total name-plate capacity of the process type(s) used to manufacture all product types that contain the listed substance: _____ kg/yr

☐ Mark (X) this box if you attach a continuation sheet.

6.04 For each market listed below, state the quantity sold and the total sales value of the listed substance sold or transferred in bulk during the reporting year.

☐

<u>Market</u>	<u>Quantity Sold or Transferred (kg/yr)</u>	<u>Total Sales Value (\$/yr)</u>
Retail sales		
Distribution -- Wholesalers		
Distribution -- Retailers		
Intra-company transfer		
Repackagers		
Mixture producers		
Article producers		
Other chemical manufacturers or processors		
Exporters		
Other (specify)		



6.05 Substitutes -- List all known commercially feasible substitutes that you know exist for the listed substance and state the cost of each substitute. A commercially feasible substitute is one which is economically and technologically feasible to use in your current operation, and which results in a final product with comparable performance in its end uses.

CBI

☐

<u>Substitute</u>	<u>Cost (\$/kg)</u>
substitution results in performance losses	

☐ Mark (X) this box if you attach a continuation sheet.

6.06 State your average total and variable costs of manufacturing, importing, and processing the listed substance during the reporting year. (For an explanation of these costs, refer to the instructions.)

CBI

☐

Average Total Costs

Manufacturing NA \$

Importing NA \$

Processing UK \$

Average Variable Costs

Manufacturing NA \$

Importing NA \$

Processing UK \$

6.07 State your average purchase price of the listed substance, if purchased as a raw material during the reporting year.

CBI

☐

Average purchase price NA \$

6.08 State your company's total sales and sales of the listed substance sold in bulk for the reporting year.

CBI

☐

Year ending ☐☐ ☐☐
Mo. Year

Company's total sales (\$) NA

Sales of listed substance (\$) NA

☐ Mark (X) this box if you attach a continuation sheet.

6.09 State your company's total sales and sales of the listed substance sold in bulk for the corporate fiscal year preceding the reporting year. (Refer to the instructions for question 6.08 for the methodology used to answer this question.)

CBI

☐

Year ending ☐☐ ☐☐
Mo. Year

Company's total sales (\$) NA

Sales of listed substance (\$)

6.10 State your company's total sales and sales of the listed substance sold in bulk for the 2 corporate fiscal years preceding the reporting year in descending order. (Refer to the instructions for question 6.08 for the methodology used to answer this question.)

CBI

☐

Year ending ☐☐ ☐☐
Mo. Year

Company's total sales (\$) NA

Sales of listed substance (\$)

Year ending ☐☐ ☐☐
Mo. Year

Company's total sales (\$)

Sales of listed substance (\$)

☐ Mark (X) this box if you attach a continuation sheet.

General Instructions:

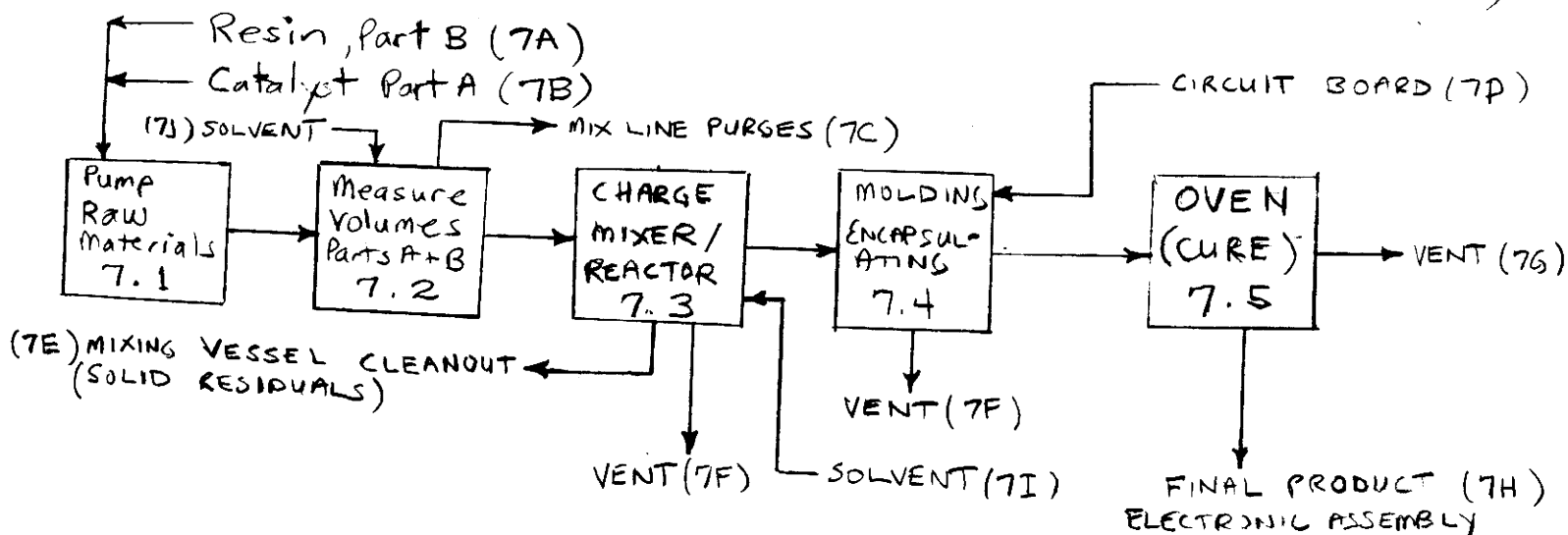
For questions 7.04-7.06, provide a separate response for each process block flow diagram provided in questions 7.01, 7.02, and 7.03. Identify the process type from which the information is extracted.

PART A MANUFACTURING AND PROCESSING PROCESS TYPE DESCRIPTION

7.01 In accordance with the instructions, provide a process block flow diagram showing the major (greatest volume) process type involving the listed substance.

CBI

☐ Process type ELECTRONIC POTTING (ENCAPSULATING)



☐ Mark (X) this box if you attach a continuation sheet.

7.03 In accordance with the instructions, provide a process block flow diagram showing process emission streams and emission points that contain the listed substance and which, if combined, would total at least 90 percent of all facility emissions if not treated before emission into the environment. If all such emissions are released from one process type, provide a process block flow diagram using the instructions for question 7.01. If all such emissions are released from more than one process type, provide a process block flow diagram showing each process type as a separate block.

CBI

☐ Process type ELECTRONIC POTTING (ENCAPSULATION)

(7.2, 7.3, 7A, 7B) → (7C, 7E) SPENT CONTAINERS
(TDI RESIDUALS)

(7A, 7B, 7.1, 7.2
7.3, 7.4) → (7F) GENERAL WORK AREA
VENTILATION

(7.5) → (7G) OVEN VENTILATION

☐ Mark (X) this box if you attach a continuation sheet.

7.04 Describe the typical equipment types for each unit operation identified in your process block flow diagram(s). If a process block flow diagram is provided for more than one process type, photocopy this question and complete it separately for each process type.

CBI

☐ Process type

Unit Operation ID Number	Typical Equipment Type	Operating Temperature Range (°C)	Operating Pressure Range (mm Hg)	Vessel Composition
<u>7.1</u>	<u>Pump</u>	<u>AMBIENT</u>	<u>60 psi</u>	<u>STEEL</u>
<u>7.2</u>	<u>Flow meter</u>	<u>AMBIENT</u>	<u>60 psi</u>	<u>STEEL</u>
<u>7.3</u>	<u>MIXER KETTLE</u>	<u>AMBIENT</u>	<u>60 psi</u>	<u>STEEL</u>
<u>7.4</u>	<u>MOLD</u>	<u>AMBIENT</u>	<u>AMBIENT</u>	<u>PVC</u>
<u>7.5</u>	<u>OVEN</u>	<u>75°C</u>	<u>AMBIENT</u>	<u>STEEL</u>
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____

☐ Mark (X) this box if you attach a continuation sheet.

7.05 Describe each process stream identified in your process block flow diagram(s). If a process block flow diagram is provided for more than one process type, photocopy this question and complete it separately for each process type.

CBI

☐ Process type ELECTRONIC POTTING (ENCAPSULATION)

Process Stream ID Code	Process Stream Description	Physical State ¹	Stream Flow (kg/yr)
<u>7A</u>	<u>Raw Material - Resin</u>	<u>OL</u>	<u>20.0</u>
<u>7B</u>	<u>Raw Material - Catalyst</u>	<u>OL</u>	<u>20.0</u>
<u>7C</u>	<u>MIX LINE PURGES (A+B)</u>	<u>OL</u>	<u>2.0</u>
<u>7D</u>	<u>CIRCUIT BOARD</u>	<u>SO</u>	<u>NA</u>
<u>7E</u>	<u>MIXING VESSEL CLEANOUT</u>	<u>SO</u>	<u>3.5</u>
<u>7F</u>	<u>WORK AREA VENTILATION</u>	<u>GU</u>	<u>'UK'</u>
<u>7G</u>	<u>OVEN VENTILATION</u>	<u>GU</u>	<u>'UK'</u>
<u>7H</u>	<u>ELECTRONIC ASSEMBLY</u>	<u>SO</u>	<u>NA</u>

¹Use the following codes to designate the physical state for each process stream:

GC = Gas (condensable at ambient temperature and pressure)
 GU = Gas (uncondensable at ambient temperature and pressure)
 SO = Solid
 SY = Sludge or slurry
 AL = Aqueous liquid
 OL = Organic liquid
 IL = Immiscible liquid (specify phases, e.g., 90% water, 10% toluene)

☐ Mark (X) this box if you attach a continuation sheet.

7.06 Characterize each process stream identified in your process block flow diagram(s). If a process block flow diagram is provided for more than one process type, photocopy this question and complete it separately for each process type. (Refer to the CBI instructions for further explanation and an example.)

☐ Process type ELECTRONIC POTTING (ENCAPSULATION)

a.	b.	c.	d.	e.
Process Stream ID Code	Known Compounds ¹	Concentrations ^{2,3} (% or ppm)	Other Expected Compounds	Estimated Concentrations (% or ppm)
<u>7A</u>	<u>(Resin)- Polyols</u>	<u>90%</u>		
<u>7B</u>	<u>(catalyst) 2,6 TDI</u>	<u>10%</u>		<u>'UK'</u>
	<u>2,4 TDI</u>	<u>30%</u>		
<u>7C</u>	<u>(Purges) (7A+7B)</u>	<u>40%</u>		
<u>7D</u>	<u>NA</u>			
<u>7E</u>	<u>(Cleanout) (7A+7B)</u>	<u>5%</u>	<u>none</u>	<u>'UK'</u>
<u>7F</u>	<u>(Vapor) cyanates</u>			
	<u>ammonia, air, Carbon dioxide</u>		<u>none</u>	<u>'UK'</u>
<u>7G</u>	<u>(Vapor) cyanates</u>			
	<u>air, ammonia,</u>			
	<u>Carbon dioxide</u>		<u>none</u>	
<u>7H</u>	<u>NA - Final Product</u>		<u>NA</u>	<u>NA</u>

7.06 continued below

☐ Mark (X) this box if you attach a continuation sheet.

¹For each additive package introduced into a process stream, specify the compounds that are present in each additive package, and the concentration of each component. Assign an additive package number to each additive package and list this number in column b. (Refer to the instructions for further explanation and an example. Refer to the glossary for the definition of additive package.)

Additive Package Number	Components of Additive Package	Concentrations (% or ppm)
<u>1</u>		
<u>2</u>		
<u>3</u>		
<u>4</u>		
<u>5</u>		

²Use the following codes to designate how the concentration was determined:

A = Analytical result
E = Engineering judgement/calculation

³Use the following codes to designate how the concentration was measured:

V = Volume
W = Weight

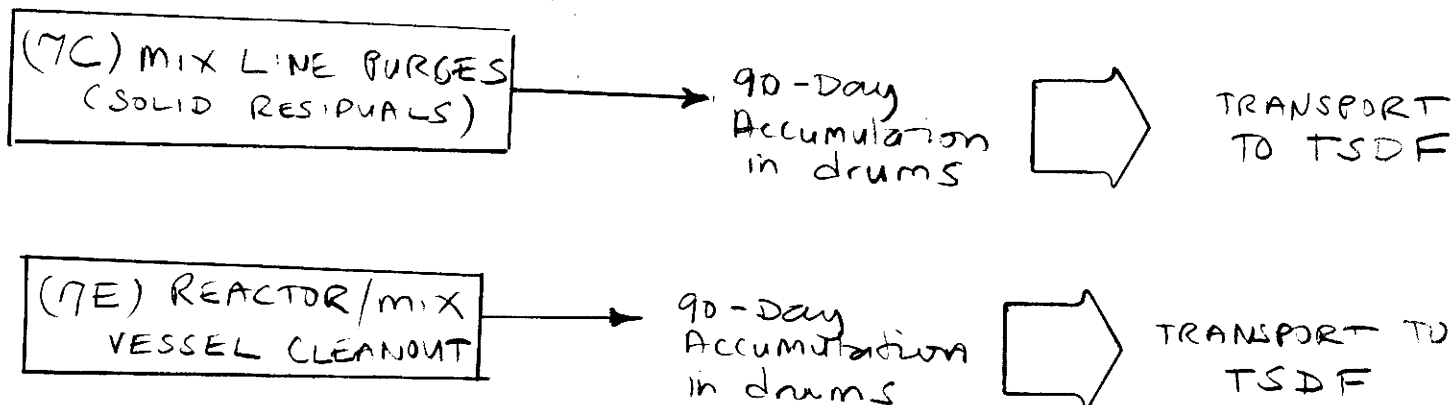
☐ Mark (X) this box if you attach a continuation sheet.

PART A RESIDUAL TREATMENT PROCESS DESCRIPTION

8.01 In accordance with the instructions, provide a residual treatment block flow diagram which describes the treatment process used for residuals identified in question 7.11.

CBI

☐ Process type ELECTRONIC POTTING (ENCAPSULATING)



☐ Mark (X) this box if you attach a continuation sheet.

8.02 In accordance with the instructions, provide residual treatment block flow diagram which describe each of the treatment processes used for residuals identified in question 7.02.

CBI

☐ Process type _____

NA

☐ Mark (X) this box if you attach a continuation sheet.

8.03 In accordance with the instructions, provide residual treatment block flow diagram which describe each of the treatment processes used for residuals identified in question 7.03.

CBI

☐ Process type

NA

☐ Mark (X) this box if you attach a continuation sheet.

8.04 Describe the typical equipment types for each unit operation identified in your residual treatment block flow diagram(s). If a residual treatment block flow diagram is provided for more than one process type, photocopy this question and complete it separately for each process type.

CBI

☐ Process type _____

Unit Operation ID Number
(as assigned in questions
8.01, 8.02, or 8.03)

NA

Typical Equipment Type

☐ Mark (X) this box if you attach a continuation sheet.

8.05 Characterize each process stream identified in your residual treatment block flow diagram(s). If a residual treatment block flow diagram is provided for more than one process type, photocopy this question and complete it separately for each process type. (Refer to the instructions for further explanation and an example.)

[illegible]

☐ Mark (X) this box if you attach a continuation sheet.

Use the following codes to designate the type of hazardous waste:

I = Ignitable
C = Corrosive
R = Reactive
E = EP toxic
T = Toxic
H = Acutely hazardous

Use the following codes to designate the physical state of the residual:

GC = Gas (condensable at ambient temperature and pressure)
GU = Gas (uncondensable at ambient temperature and pressure)
SO = Solid
SY = Sludge or slurry
AL = Aqueous liquid
OL = Organic liquid
IL = Immiscible liquid (specify phases, e.g., 90% water, 10% toluene)

8.05 continued below

☐ Mark (X) this box if you attach a continuation sheet.

³For each additive package introduced into a process stream, specify the compounds that are present in each additive package, and the concentration of each component. Assign an additive package number to each additive package and list this number in column d. (Refer to the instructions for further explanation and an example. Refer to the glossary for the definition of additive package.)

Additive Package Number	Components of Additive Package	Concentrations (% or ppm)
1	N/A	
2		
3		
4		
5		

⁴Use the following codes to designate how the concentration was determined:

A = Analytical result

E = Engineering judgement/calculation

8.05 continued below

☐ Mark (X) this box if you attach a continuation sheet.

⁵ Use the following codes to designate how the concentration was measured:

V = Volume

W = Weight

⁶ Specify the analytical test methods used and their detection limits in the table below. Assign a code to each test method used and list those codes in column e

<u>Code</u>	<u>Method</u>	<u>Detection Limit</u> <u>(= ug/l)</u>
<u>1</u>		
<u>2</u>		
<u>3</u>		
<u>4</u>		
<u>5</u>		
<u>6</u>		

☐ Mark (X) this box if you attach a continuation sheet.

CBI

a.	b.	c.	d.	e.		f.	g.
Stream ID Code	Waste Description Code ¹	Management Method Code ¹	Residual Quantities (kg/yr)	Management of Residual (%)		Costs for Off-Site Management (per kg)	Changes in Management Methods
				On-Site	Off-Site		
7C	B69/B82	1ST	2	100%		'NA'	

NOTE: Residuals are collected in accumulation drum at process site and then shipped to TSDF with other process waste streams.

7E B69/382 1ST 10 100% 'NA'

NOTE: These residuals are managed
as part of (7C) waste stream

²Use the codes provided in Exhibit 8-2 to designate the management methods

58

PART C TRANSPORTATION OF RESIDUALS TO OFF-SITE FACILITIES

8.07 Identify any special handling instructions for the residuals identified in your CBI process block or residual treatment block flow diagram(s). (Refer to the instructions for an example.)

☐

Stream
ID
Code

Special Handling Instructions

7C

NONE

7E

NONE

8.08 Identify those construction materials that are recommended (compatible) for containing or transporting the listed substance, and those materials that you know could cause a dangerous reaction or significant corrosion (incompatible) if they are used to contain or transport the listed substance.

☐

Stream
ID
Code

Construction Materials

Compatible Containment Materials

Incompatible Containment Materials

☐ Mark (X) this box if you attach a continuation sheet.

8.09 Identify each off-site facility (including POTWs) that manages the residuals identified in your process block or residual treatment block flow diagram(s), and quantity that each managed during the reporting year. Photocopy this question and complete it separately for each off-site facility.

☐

Stream ID Code	Annual Quantity (kg)
7C	2
7E	10

Facility Name MARISOL, INC.

Address 125 EACITOR V LANE
Street

MIDDLESEX
City

NJ 08846
State Zip Code

EPA Identification Number (i.e.,
Hazardous Waste Facility ID Number) NJ0002454544

☐ Mark (X) this box if you attach a continuation sheet.

- 8.09 Identify each off-site facility (including POTWs) that manages the residuals identified in your process block or residual treatment block flow diagram(s), and quantity that each managed during the reporting year. Photocopy this question and complete it separately for each off-site facility.

☐

Stream ID Code

Annual Quantity (kg)

7C

2

7E

10

Facility Name A E T C

Address G O L D M I N E R O A D
Street

E L A N D E R S
City

N J 0 7 2 3 6 --
State Zip Code

EPA Identification Number (i.e.,
Hazardous Waste Facility ID Number) N J D O 8 0 6 3 1 3 6 9

☐ Mark (X) this box if you attach a continuation sheet.

PART D ON-SITE RESIDUALS MANAGEMENT INFORMATION

8.10 Identification Permit Numbers -- List any applicable identification or permit numbers for your facility.

EPA National Pollutant Discharge Elimination System
(NPDES) Permit No.(s)
(discharges to surface water)

NA

EPA Underground Injection Well
(UIC) Permit No.(s)
(underground injection of fluids)

EPA Point Source Discharge
(PSD) Permit No.(s)
(air emissions from point sources)

EPA Hazardous Waste Management
Facility Permit No.(s)

Other EPA Permits (specify)

.....
.....
.....

☐ Mark (X) this box if you attach a continuation sheet.

8.11 On-Site Storage or Treatment in Piles -- Complete this table for the five largest (by volume) piles that are used on-site to store or treat the residuals identified in your process block or residual treatment block flow diagram(s).

☐

File	Quantity Managed per Year (cubic meters)	Under Roofed Structure (Y/N)	Type of Contain- ment Provided ¹	Synthetic Liner Base (Y/N) ²	Frequency of Transfer and/or Handling Operations ³	Stream ID Code
1						
2						
3						
4						
5						

Indicate if Office of Solid Waste survey has been submitted in lieu of response by circling the appropriate response.

Yes

No

¹Use the following codes to designate the type of containment provided:

C = Complete (includes both dike containment and underground (leachate) containment)

P1 = Partial-1 (includes just dike containment)

P2 = Partial-2 (includes just underground (leachate) containment)

N = None

²Waste may lie directly on the synthetic liner or the liner may be covered with a clay layer

³Use the following codes to designate frequency of transfer and/or handling operations:

A = Daily

B = Weekly

C = Monthly

D = Other (specify) _____

☐ Mark (X) this box if you attach a continuation sheet.

8.12 On-Site Storage or Treatment in Tanks -- Complete the following table for the five largest (by volume) tanks that are used on-site to store or treat the residuals identified in your process block or residual treatment block flow diagram(s).

☐

Tank	Design Capacity (liters)	Quantity per Year (liters)	Treatment Types ¹	Average Length of Storage (days)	Part of Wastewater Treatment Train (Y/N) ²	Tank Covered (Y/N)	Type of Containment Provided ³	Stream ID Code
1			NA					
2								
3								
4								
5								

Indicate if Office of Solid Waste survey has been submitted in lieu of response by circling the appropriate response.

Yes 1

No 2

¹Indicate "S" for storage or use the codes provided in Exhibit 8-3 (which follows question 8.13) to designate treatment types

²Treatment train from which wastewater is discharged under a NPDES permit or through a sewer system to a publicly owned treatment works

³Use the following codes to designate the type of containment provided:

C = Complete (includes both dike containment and underground (leachate) containment)

P1 = Partial-1 (includes just dike containment)

P2 = Partial-2 (includes just underground (leachate) containment)

N = None

☐ Mark (X) this box if you attach a continuation sheet.

8.13 On-Site Storage, Treatment, or Disposal in Containers -- Complete the following table for the five largest (by volume) types of free standing containers that are used on-site to store, treat, or dispose of the residuals identified in your process block or residual treatment block flow diagram(s).

☐

Container	Design Capacity (liters)	Quantity Stored per Year (liters)	Treatment Types ¹	Average Length of Storage (days)	Average Daily Stored Quantity (liters)	Maximum Operational Storage Capacity (liters)	Storage Base Material ²	Stream ID Code
1			NA					
2								
3								
4								
5								

Indicate if Office of Solid Waste survey has been submitted in lieu of response by circling the appropriate response.

Yes 1

No 2

¹Indicate "S" for storage and use the codes provided in Exhibit 8-3 to designate treatment types

If residual is stored, indicate (Y/N) in parenthesis whether the storage area is designed and operated to collect and contain surface runoff

²Use the following codes to designate storage base materials:

A = Concrete

B = Asphalt

C = Soil

D = Other (specify) _____

☐ Mark (X) this box if you attach a continuation sheet.

8.14 On-Site Burning in Boilers -- Complete the following table for the five largest (by capacity) boilers that are used on-site to burn the residuals identified in you CBI process block or residual treatment block flow diagram(s).

[]

Boiler	Boiler Type ¹	Average Boiler Load ² (%)	Average Fuel Replacement Ratio ³ (%)	Stream ID Code
1				
2				
3				
4				
5				

Indicate if Office of Solid Waste survey has been submitted in lieu of responses by circling the appropriate response.

Yes

No

¹Use the following codes to designate boiler type:

F = Fire tube
W = Water tube

²Designate the average boiler load when firing residual (percent of capacity)

³Designate the average fuel replacement ratio as a percentage (heat-input basis)

[] Mark (X) this box if you attach a continuation sheet.

8.15 Complete the following table for the five largest (by capacity) boilers that are used on-site to burn the residuals identified in your process block or residual treatment block flow diagram(s).

☐

Boiler	Boiler Heat Capacity (heat input in kJ/hr)	Primary Boiler Fuel
1		
2		
3		
4		
5		

Indicate if Office of Solid Waste survey has been submitted in lieu of response by circling the appropriate response.

Yes

No

¹Use the following codes to designate the primary boiler fuel:

A = Oil
B = Gas
C = Coal

D = Wood
E = Other (specify) _____

☐ Mark (X) this box if you attach a continuation sheet.

8.16 Provide the following information for the residuals identified in your process block or residual treatment block flow diagram(s) that are burned in on-site boilers. Photocopy this question and complete it separately for each boiler.

CBI

☐ Boiler number
Stream ID code(s)

	Residual, as Fired (or residual mixture if residuals are blended)	Boiler Fuel, as Fired (residual(s) plus primary fuel)
Btu content (J/kg)		
Average		
Minimum		
Total halogen content (% by wt.)		
Average		
Maximum		

Indicate if Office of Solid Waste survey has been submitted in lieu of response by circling the appropriate response.

Yes

No

☐ Mark (X) this box if you attach a continuation sheet.

8.17 Complete the following table for the five largest (by capacity) boilers that are on-site to burn the residuals identified in your process block or residual treatment block flow diagram(s).

☐

Boiler	Stream ID Code	Listed Metal ¹	Total Metal Content (% by weight)	
			Avg.	Max.
1				
2				
3				
4				
5				

NA

Indicate if Office of Solid Waste survey has been submitted in lieu of response by circling the appropriate response.

Yes

No

¹ A listed metal is either an EP toxic metal or a metal that is included on the California List (as defined in section 3004(d)(2) of the Resource Conservation and Recovery Act)

☐ Mark (X) this box if you attach a continuation sheet.

8.18 Complete the following table for the five largest (by capacity) boilers that are use on-site to burn the residuals identified in your process block or residual treatment CBI block flow diagram(s).

☐

Boiler	Air Pollution Control Device ¹	Types of Emissions Data Available
1		
2		
3		
4		
5		

Indicate if Office of Solid Waste survey has been submitted in lieu of response by circling the appropriate response.

Yes

No

Use the following codes to designate the air pollution control device:

S = Scrubber (include type of scrubber in parenthesis)

E = Electrostatic precipitator

O = Other (specify) _____

☐ Mark (X) this box if you attach a continuation sheet.

8.19 Stack Parameters -- Provide the following information for each of the five largest (by capacity) boilers that are used on-site to burn the residuals identified in your process block or residual treatment block flow diagram(s). Photocopy this question and complete it separately for each boiler.

☐ Boiler number

Stack height m
Stack inner diameter (at outlet) m
Exhaust temperature °C
Vertical or horizontal stack (V or H)
Annual emissions for the listed substance kg/yr
Height of attached or adjacent building m
Width of attached or adjacent building m
Building cross-sectional area m²
Emission exit velocity m/sec
Average emission rate of exit stream kg/min
Maximum emission rate of exit stream kg/min
Average duration of maximum emission rate of exit stream min
Frequency of maximum emission rate of exit stream times/yr

Indicate if Office of Solid Waste survey has been submitted in lieu of response by circling the appropriate response.

Yes

No

☐ Mark (X) this box if you attach a continuation sheet.

8.20 On-Site Burning in Incinerators -- Complete the following table for the three largest (by capacity) incinerators that are used on-site to burn the residuals identified in CBI your process block or residual treatment block flow diagram(s).

[]

Incinerator	Incinerator Type	Primary Incinerator Fuel	Average Fuel Replacement Ratio	Stream ID Code
1				
2				
3				

Indicate if Office of Solid Waste survey has been submitted in lieu of response by circling the appropriate response.

Yes

No

¹Use the following codes to designate the incinerator type:

1I = Liquid injection
 2I = Rotary or rocking kiln
 3I = Rotary kiln with a liquid injection unit
 4I = Two stage
 5I = Fixed hearth

6I = Multiple hearth
 7I = Fluidized bed
 8I = Infrared
 9I = Fume/vapor
 10I = Pyrolytic destructor
 11I = Other (specify) _____

²Use the following codes to designate the primary incinerator fuel:

A = Oil
 B = Gas
 C = Coal


D = Wood
 E = Other (specify) _____

³Designate the percentage of auxiliary fuel used when firing residual (percent of capacity)

[] Mark (X) this box if you attach a continuation sheet.

8.21 Complete the following table for the three largest (by capacity) incinerators that are used on-site to burn the residuals identified in your process block or residual CBI treatment block flow diagram(s).

☐

Incinerator		Incinerator Heat Capacity (heat input in kJ/hr)	Feed Type
1			
2			
3			

Indicate if Office of Solid Waste survey has been submitted in lieu of response by circling the appropriate response.

Yes

No

¹Use the following codes to designate feed type:

- A = Liquid nozzle type (specify) _____
- B = Atomizing pressure (specify) _____
- C = Solid-batch charge
- D = Solid-continuous charge

☐ Mark (X) this box if you attach a continuation sheet.

8.22 Describe the combustion chamber design parameters for each of the three largest (by capacity) incinerators that are used on-site to burn the residuals identified in your process block or residual treatment block flow diagram(s).

☐

Incinerator	Combustion Chamber Temperature (°C)		Location of Temperature Monitor		Residence Time In Combustion Chamber (seconds)	
	Primary	Secondary	Primary	Secondary	Primary	Secondary
1						
2						
3						

Indicate if Office of Solid Waste survey has been submitted in lieu of response by circling the appropriate response.

Yes 1

No 2

8.23 Complete the following table for the three largest (by capacity) incinerators that are used on-site to burn the residuals identified in your process block or residual treatment block flow diagram(s).

☐

Incinerator	Air Pollution Control Device ¹	Types of Emissions Data Available
1		
2		
3		

Indicate if Office of Solid Waste survey has been submitted in lieu of response by circling the appropriate response.

Yes 1

No 2

¹Use the following codes to designate the air pollution control device:

S = Scrubber (include type of scrubber in parenthesis)
 E = Electrostatic precipitator
 O = Other (specify) _____

☐ Mark (X) this box if you attach a continuation sheet.

8.24 Stack Parameters -- Provide the following information on stack parameters for the three largest (by capacity) incinerators that are used on-site to burn the residuals identified in your process block or residual treatment block flow diagram(s).
CBI Photocopy this question and complete it separately for each incinerator.

☐ Incinerator number

Stack height m
Stack inner diameter (at outlet) m
Exhaust temperature °C
Vertical or horizontal stack (V or H)
Annual emissions for the listed substance kg/yr
Height of attached or adjacent building m
Width of attached or adjacent building m
Building cross-sectional area m²
Emission exit velocity m/sec
Average emission rate of exit stream kg/min
Maximum emission rate of exit stream kg/min
Average duration of maximum emission rate of exit stream min
Frequency of maximum emission rate of exit stream times/year

Indicate if Office of Solid Waste survey has been submitted in lieu of response by circling the appropriate response.

Yes 1

No 2

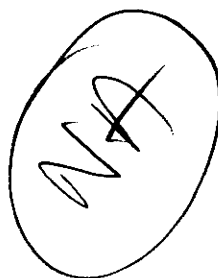
☐ Mark (X) this box if you attach a continuation sheet.

8.25 Provide the following information on the incinerator feed for the three largest (by capacity) incinerators that are used on-site to burn the residuals identified in your process block or residual treatment block flow diagram(s). Photocopy this question and complete it separately for each incinerator.

CBI

☐ Incinerator number
Stream ID code(s)

	Residual, as Fired (or residual mixture if residuals are blended)	Incinerator Fuel as Fired (residual(s) plus primary fuel)
Btu content (J/kg)		
Average		
Minimum		
Feed rate (kg/hr)		
Feed rate (J/hr)(kg/hr x J/kg)		
Total halogen content (% by weight)		
Average		
Maximum		
Total ash content (% by weight)		
Average		
Maximum		
Total water content (% by weight)		
Average		
Maximum		



Indicate if Office of Solid Waste survey has been submitted in lieu of response by circling the appropriate response.

Yes 1
No 2

☐ Mark (X) this box if you attach a continuation sheet.

8.26 Provide the following information on the incinerator feed for the three largest (by capacity) incinerators that are used on-site to burn the residuals identified in the process block or residual treatment block flow diagram(s).

☐

Incinerator	Stream ID Code	Listed Metal ¹	Total Metal Content	
			(% by weight)	
Avg.				
1				
2				
3				

N/A

Indicate if Office of Solid Waste survey has been submitted in lieu of response by circling the appropriate response.

Yes

No

¹ A listed metal is either an EP toxic metal or a metal that is included on the California List (as defined in section 3004(d)(2) of the Resource Conservation and Recovery Act)

☐ Mark (X) this box if you attach a continuation sheet.

8.27 On-Site Storage, Treatment or Disposal in a Land Treatment Site -- Complete the following table for each on-site land treatment site that is used to store, treat, dispose of the residuals identified in your process block or residual treatment block flow diagram(s).

CBI

☐ Total area actively used for land treatment
Average slope of site (degree incline)
Surface water runoff management¹

NTA

Indicate if Office of Solid Waste survey has been submitted in lieu of response by circling the appropriate response.

Yes

No

¹Use the following codes to describe the management practices for surface water runoff:

A = Collection prior to treatment
B = Reapplication to the site

C = Canalization prior to treatment
D = Other (specify) _____

☐ Mark (X) this box if you attach a continuation sheet.

8.28 Complete the following table for the residuals identified in your process block or residual treatment block flow diagram(s) that are managed in an on-site land treatment operation.

☐

Stream ID Code	Year Land Treatment Initiated	Methods Used to Apply Residuals ¹	Application Rate ²

Indicate if Office of Solid Waste survey has been submitted in lieu of response by circling the appropriate response.

Yes

No

¹Use the following codes to describe the method(s) used to apply residuals to the land treatment site:

- A = Surface spreading or spray irrigation without plow or disc incorporation
- B = Surface spreading or spray irrigation with plow or disc incorporation to a depth of _____ cm
- C = Subsurface injection to a depth of _____ cm
- D = Other (specify) _____

²Use the following codes to designate the application rate:

- A = Daily
- B = Weekly
- C = Monthly
- D = Other (specify) _____

☐ Mark (X) this box if you attach a continuation sheet.

8.29 On-Site Storage, Treatment, or Disposal in Surface Impoundments Complete the following table for the five largest (by volume) surface impoundments that are used on-site to treat, store, or dispose of the residuals identified in your process block or residual treatment block flow diagram(s).

☐

Impound- ment	Total Capacity (liters)	Specify Storage, Disposal or Treatment Type if Applicable ¹	Average Residency Time (days) ²	SYNTHETIC LINER		CLAY LINER		LEACHATE COLLECTION SYSTEM		Stream ID Cod
				No. of Liners	Thick- ness (cm) ³	No. of Liners	Thickness (cm)	Installed (Y/N)	Leachate Collected (Y/N)	
1				NA						
2										
3										
4										
5										

Indicate if Office of Solid Waste survey has been submitted in lieu of response by circling the appropriate response.

Yes 1

No 2

¹Indicate "S" for storage, "D" for disposal, or use the codes provided in Exhibit 8-3 (which follows question 8.13) to designate treatment type

²Indicate the residency time for the surface impoundment's flow through stream. In addition, indicate in parenthesis using the following codes the frequency with which the impoundment is dredged to clear the residue that collects on the bottom:

A = Daily
B = Weekly

C = Monthly
D = Other (specify) _____

³Indicate the thickness of each liner

☐ Mark (X) this box if you attach a continuation sheet.

8.30 On-Site Disposal in Landfill Cells -- Complete the following table for the five largest (by volume) landfill cells that are used on-site to dispose of the residuals identified in your process block or residual treatment block flow diagram(s).

CBI

[]

Landfill Cell	Quantity per year (kg)	DRAINAGE LAYER		CLAY LINER		SYNTHETIC LINER			Stream ID Code
		Installed (Y/N)	Thickness (cm)	No. of Liners	Thickness (cm) ¹	No. of Liners	Material	Thickness (cm) ¹	
1				NA					
2									
3									
4									
5									

Indicate if Office of Solid Waste survey has been submitted in lieu of response by circling the appropriate response.

Yes 1

No 2

¹Indicate the thickness of each liner

[] Mark (X) this box if you attach a continuation sheet.

8.31 State the total area actively used on-site for your landfill.

CBI

☐ Total area actively used

Indicate if Office of Solid Waste survey has been submitted in lieu of response by circling the appropriate response.

Yes

No **NA**

8.32 Complete the following table for the five largest landfill cells (by volume) that contain residuals identified in your process block or residual treatment block flow diagram(s).

CBI

☐

Landfill Cell	WORKING COVER		CAP DESIGN CLAY LAYER		LEACHATE COLLECTION SYSTEM	
	Average Use	Thickness (cm)	Installed (Y/N)	Thickness (cm)	Installed (Y/N)	Leachate Collecte (Y/N)
1						
2						
3						
4						
5						

Indicate if Office of Solid Waste survey has been submitted in lieu of response by circling the appropriate response.

Yes

No

¹Use the following codes to designate the average use rate:

A = Daily

B = Weekly

C = Monthly

D = Other (specify) _____

☐ Mark (X) this box if you attach a continuation sheet.

8.33 On-Site Disposal in Injection Wells -- Complete the following table for the five largest (by volume) injection wells that are used on-site to dispose of the residuals identified in your process block or residual treatment block flow diagram(s).

☐

Well	Well Type ¹	Quantity Disposed (liters) ²	Stream ID Code
1			
2			
3			
4			
5			



Indicate if Office of Solid Waste survey has been submitted in lieu of response by circling the appropriate response.

Yes

No

¹Use the following codes to designate well type:

- A = Wells that dispose below deepest groundwater with <10,000 mg/l of total dissolved solids
- B = Wells that dispose into a formation containing groundwater with <10,000 mg/l of total dissolved solids
- C = Wells that dispose above all groundwater
- D = Other (specify) _____

²Indicate the quantity of listed substance disposed

☐ Mark (X) this box if you attach a continuation sheet.

PART A EMPLOYMENT AND POTENTIAL EXPOSURE PROFILE

9.01 Mark (X) the appropriate column to indicate whether your company maintains records of the following data elements for hourly and salaried workers. Specify for each data element the year in which you began maintaining records and the number of years the records for that data element are maintained. (Refer to the instructions for further explanation and an example.)

CBI

☐

Data Element	Data are Maintained for:		Year in Which Data Collection Began	Number of Years Records Are Maintained
	Hourly Workers	Salaried Workers		
Date of hire	<u>X</u>	<u>X</u>	<u>1906</u>	<u>Permanent</u>
Age at hire	<u>X</u>	<u>X</u>	<u>1906</u>	<u>Permanent</u>
Work history of individual before employment at your facility	<u>X</u>	<u>X</u>	<u>1906</u>	<u>Permanent</u>
Sex	<u>X</u>	<u>X</u>	<u>1906</u>	<u>Permanent</u>
Race	<u>X</u>	<u>X</u>	<u>1906</u>	<u>Permanent</u>
Job titles	<u>X</u>	<u>X</u>	<u>1906</u>	<u>Permanent</u>
Start date for each job title	<u>X</u>	<u>X</u>	<u>1906</u>	<u>Permanent</u>
End date for each job title	<u>X</u>	<u>X</u>	<u>1906</u>	<u>Permanent</u>
Work area industrial hygiene monitoring data	<u>X</u>	<u>X</u>	<u>1984</u>	<u>Permanent</u>
Personal employee monitoring data	<u>X</u>	<u>X</u>	<u>1984</u>	<u>Permanent</u>
Employee medical history	<u>X</u>	<u>X</u>	<u>1960</u>	<u>Active + 40 yrs.</u>
Employee smoking history				
Accident history	<u>X</u>	<u>X</u>	<u>1965</u>	<u>Permanent</u>
Retirement date	<u>X</u>	<u>X</u>	<u>1906</u>	<u>Permanent</u>
Termination date	<u>X</u>	<u>X</u>	<u>1906</u>	<u>Permanent</u>
Vital status of retirees				
Cause of death data				

☐ Mark (X) this box if you attach a continuation sheet.

9.02 In accordance with the instructions, complete the following table for each activity in which you engage.

CBI

☐

a.	b.	c.	d.	e.
<u>Activity</u>	<u>Process Category</u>	<u>Yearly Quantity (kg)</u>	<u>Total Workers</u>	<u>Total Worker-Hours</u>
Manufacture of the listed substance	Enclosed	NA		
	Controlled Release	NA		
	Open	NA		
On-site use as reactant	Enclosed	NA		
	Controlled Release	NA		
	Open	NA		
On-site use as nonreactant	Enclosed	NA		
	Controlled Release	NA		
	Open	NA		
On-site preparation of products	Enclosed	NA		
	Controlled Release	< 10	8	2116
	Open	NA		

☐ Mark (X) this box if you attach a continuation sheet.

9.03 Provide a descriptive job title for each labor category at your facility that encompasses workers who may potentially come in contact with or be exposed to the listed substance.

CBI

☐

Labor Category

Descriptive Job Title

A

Material Handler

B

Wireman (Pasting Operator)

C

Maintenance Mechanic

D

E

F

G

H

I

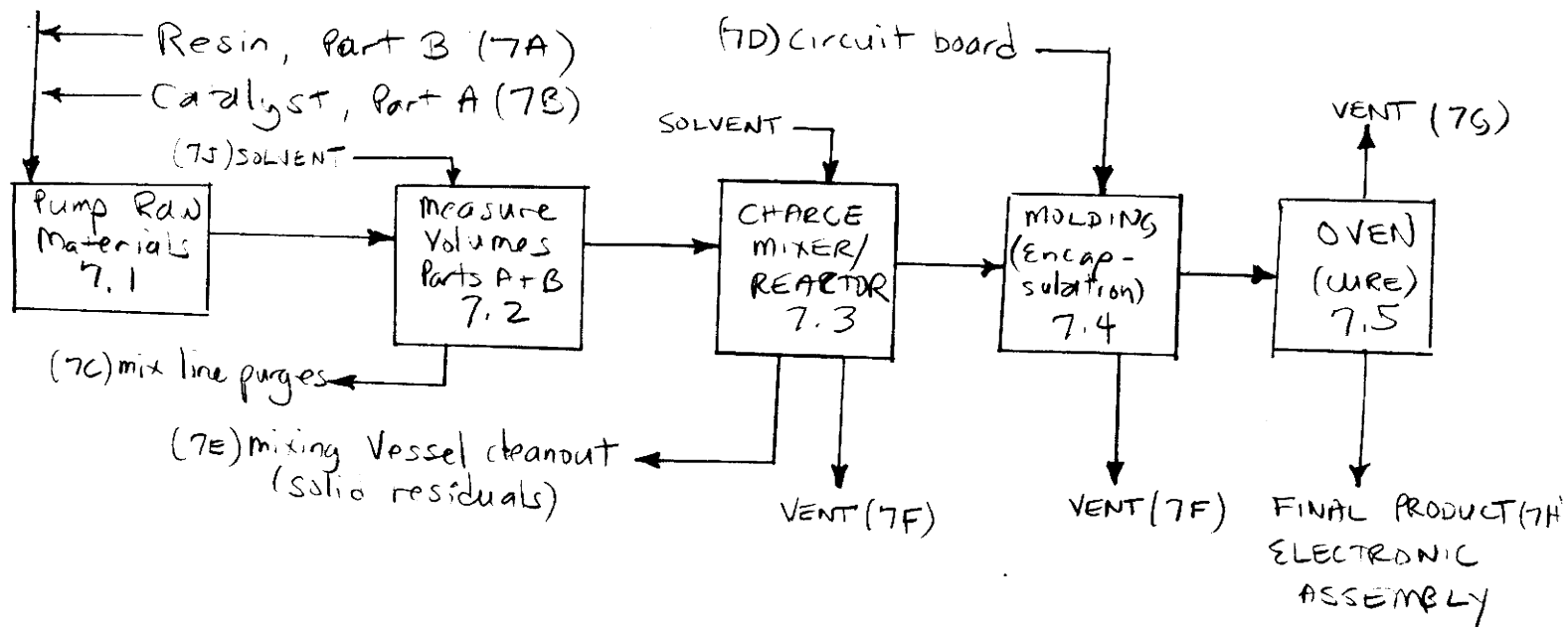
J

☐ Mark (X) this box if you attach a continuation sheet.

9.04 In accordance with the instructions, provide your process block flow diagram(s) and indicate associated work areas.

CBI

☐ Process type ELECTRONIC POTTING (ENCAPSULATION)



☐ Mark (X) this box if you attach a continuation sheet.

9.05 Describe the various work area(s) shown in question 9.04 that encompass workers who may potentially come in contact with or be exposed to the listed substance. Add any additional areas not shown in the process block flow diagram in question 7.01 or 7.02. Photocopy this question and complete it separately for each process type.

CBI

☐ Process type

Work Area ID

Description of Work Areas and Worker Activities

1	Vented mixing area (7.1)
2	Vented mixing area (7.2)
3	Closed mixing/reactor vessel (7.3)
4	Vented explosion-proof potting room (7.4)
5	Vented curing oven (7.5)
6	
7	
8	
9	
10	

☐ Mark (X) this box if you attach a continuation sheet.

9.06 Complete the following table for each work area identified in question 9.05, and for each labor category at your facility that encompasses workers who may potentially come in contact with or be exposed to the listed substance. Photocopy this question and complete it separately for each process type and work area.

CBI

☐ Process type ENCAPSULATION

Work area

Labor Category	Number of Workers Exposed	Mode of Exposure (e.g., direct skin contact)	Physical State of Listed Substance ¹	Average Length of Exposure Per Day	Number of Days per Year Exposed
<u>B</u>	<u>6</u>	<u>Inhalation</u>	<u>OL</u>	<u>C</u>	<u>70</u>
<u>B</u>	<u>6</u>	<u>skin contact</u>	<u>OL</u>	<u>B</u>	<u>50</u>
<u>A</u>	<u>2</u>	<u>inhalation</u>	<u>OL</u>	<u>A</u>	<u>30</u>
<u>C</u>	<u>4</u>	<u>inhalation</u>	<u>OL</u>	<u>A</u>	<u>10</u>
<u>C</u>	<u>4</u>	<u>skin contact</u>	<u>OL</u>	<u>A</u>	<u>10</u>
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____

¹ Use the following codes to designate the physical state of the listed substance at the point of exposure:

GC = Gas (condensable at ambient temperature and pressure)
 GU = Gas (uncondensable at ambient temperature and pressure; includes fumes, vapors, etc.)
 SO = Solid

SY = Sludge or slurry
 AL = Aqueous liquid
 OL = Organic liquid
 IL = Immiscible liquid (specify phases, e.g., 90% water, 10% toluene)

² Use the following codes to designate average length of exposure per day:

A = 15 minutes or less
 B = Greater than 15 minutes, but not exceeding 1 hour
 C = Greater than one hour, but not exceeding 2 hours

D = Greater than 2 hours, but not exceeding 4 hours
 E = Greater than 4 hours, but not exceeding 8 hours
 F = Greater than 8 hours

☐ Mark (X) this box if you attach a continuation sheet.

9.07 For each labor category represented in question 9.06, indicate the 8-hour Time Weighted Average (TWA) exposure levels and the 15-minute peak exposure levels. Photocopy this question and complete it separately for each process type and work area.

CBI

☐ Process type ENCAPSULATION

Work area

Labor Category	8-hour TWA Exposure Level (ppm, mg/m ³ , other-specify)	15-Minute Peak Exposure Level (ppm, mg/m ³ , other-specify)
<u>B</u>	<u>'uk'</u>	<u>'uk'</u>
<u>B</u>	<u>'uk'</u>	<u>'uk'</u>

☐ Mark (X) this box if you attach a continuation sheet.

PART B WORK PLACE MONITORING PROGRAM

9.08 If you monitor worker exposure to the listed substance, complete the following table.

CBY

☐

Sample/Test	Work Area ID	Testing Frequency (per year)	Number of Samples (per test)	Who Samples ¹	Analyzed In-House (Y/N)	Number of Years Records Maintained
Personal breathing zone	<u>1</u>	<u>6</u>	<u>0</u>	<u>NA</u>	<u>NA</u>	<u>NA</u>
General work area (air)						
Wipe samples						
Adhesive patches						
Blood samples						
Urine samples						
Respiratory samples						
Allergy tests						
Other (specify)						
Other (specify)						
Other (specify)						

¹Use the following codes to designate who takes the monitoring samples:

- A = Plant industrial hygienist
- B = Insurance carrier
- C = OSHA consultant
- D = Other (specify) _____

☐ Mark (X) this box if you attach a continuation sheet.

9.09 For each sample type identified in question 9.08, describe the type of sampling and analytical methodology used for each type of sample.

☐ Sample Type Sampling and Analytical Methodology

	NA

9.10 If you conduct personal and/or ambient air monitoring for the listed substance, specify the following information for each equipment type used.

CBI

☐ Equipment Type¹ Detection Limit² Manufacturer Averaging Time (hr) Model Number

	NA			

¹Use the following codes to designate personal air monitoring equipment types:

- A = Passive dosimeter
- B = Detector tube
- C = Charcoal filtration tube with pump
- D = Other (specify) _____

Use the following codes to designate ambient air monitoring equipment types:

- E = Stationary monitors located within work area
- F = Stationary monitors located within facility
- G = Stationary monitors located at plant boundary
- H = Mobile monitoring equipment (specify) _____
- I = Other (specify) _____

²Use the following codes to designate detection limit units:

- A = ppm
- B = Fibers/cubic centimeter (f/cc)
- C = Micrograms/cubic meter (µ/m³)

☐ Mark (X) this box if you attach a continuation sheet.

9.11 If you conduct routine medical tests for monitoring the health effects of exposure to the listed substance, specify the type and frequency of the tests.

CBI

☐

Test Description

Frequency
(weekly, monthly, yearly, etc.)

NA

☐ Mark (X) this box if you attach a continuation sheet.

9.12 Describe the engineering controls that you use to reduce or eliminate worker exposure to the listed substance. Photocopy this question and complete it separately for each process type and work area.

CBI

☐ Process type ENCAPSULATION / POTTING

Work area 1

<u>Engineering Controls</u>	<u>Used (Y/N)</u>	<u>Year Installed</u>	<u>Upgraded (Y/N)</u>	<u>Year Upgraded</u>
Ventilation:				
Local exhaust	<u>Y</u>	<u>1983</u>	<u>N</u>	<u>NA</u>
General dilution	<u>Y</u>	<u>1983</u>	<u>N</u>	<u>NA</u>
Other (specify)				
_____	_____	_____	_____	_____
Vessel emission controls	<u>N</u>	_____	<u>N</u>	_____
Mechanical loading or packaging equipment	<u>Y</u>	<u>1983</u>	<u>N</u>	<u>NA</u>
Other (specify)				
_____	_____	_____	_____	_____

☐ Mark (X) this box if you attach a continuation sheet.

9.13 Describe all equipment or process modifications you have made within the 3 years prior to the reporting year that have resulted in a reduction of worker exposure to the listed substance. For each equipment or process modification described, state the percentage reduction in exposure that resulted. Photocopy this question and complete it separately for each process type and work area.

GBI

☐ Process type ENCAPSULATION / POTTING

Work area

1

Equipment or Process Modification	Reduction in Worker Exposure Per Year (%)
<u>NA</u>	

☐ Mark (X) this box if you attach a continuation sheet.

PART D PERSONAL PROTECTIVE AND SAFETY EQUIPMENT

9.14 Describe the personal protective and safety equipment that your workers wear or use in each work area in order to reduce or eliminate their exposure to the listed substance. Photocopy this question and complete it separately for each process and work area.

BE

☐ Process type ENCAPSULATION/ POTTING

Work area 1

<u>Equipment Types</u>	<u>Wear or Use (Y/N)</u>
Respirators	<u>N</u>
Safety goggles/glasses	<u>X</u>
Face shields	<u>N</u>
Coveralls	<u>N</u>
Bib aprons	<u>X</u>
Chemical-resistant gloves	<u>X</u>
Other (specify)	
_____	_____
_____	_____

☐ Mark (X) this box if you attach a continuation sheet.

9.15 If workers use respirators when working with the listed substance, specify for each process type, the work areas where the respirators are used, the type of respirators used, the average usage, whether or not the respirators were fit tested, and the type and frequency of the fit tests. Photocopy this question and complete it separately for each process type.

CBI

☐ Process type _____

Work Area	Respirator Type	Average Usage ¹	Fit Tested (Y/N)	Type of Fit Test ²	Frequency of Fit Tests (per year)
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____

¹Use the following codes to designate average usage:

- A = Daily
- B = Weekly
- C = Monthly
- D = Once a year
- E = Other (specify) _____

²Use the following codes to designate the type of fit test:

- QL = Qualitative
- QT = Quantitative

☐ Mark (X) this box if you attach a continuation sheet.

- 9.16 Respirator Maintenance Program -- For each type of respirator used when working with the listed substance, specify the frequency of the maintenance activity, and the person who performs the maintenance activity. Photocopy this question and complete it separately for each respirator type.

Respirator type _____

<u>Respirator Maintenance Activity</u>	<u>Frequency¹</u>	<u>Person Performing Activity²</u>
Cleaning	_____	_____
Inspection	_____	_____
Replacement	_____	_____
Cartridge/Canister	_____	_____
Respirator unit	_____	_____

¹Use the following codes to designate the frequency of maintenance activity:

- A = After each use
B = Weekly
C = Other (specify) _____

²Use the following codes to designate who performs the maintenance activity:

- A = Plant industrial hygienist
B = Supervisor
C = Foreman
D = Other (specify) _____

☐ Mark (X) this box if you attach a continuation sheet.

9.17 Respirator Training Program -- Describe your respirator training and re-training programs for each type of respirator used when working with the listed substance. Photocopy this question and complete it separately for each respirator type.

a.

Respirator type

NA

Type of Training	Number of Workers Trained	Location of Training	Length of Training (hrs)	Person Performing Training	Frequency
_____	_____	_____	_____	_____	_____

b.

Respirator type

NA

Type of Re-training ¹	Number of Workers Re-trained	Location of Re-Training ²	Length of Re-Training (hrs)	Person Performing Re-Training ³	Frequency
_____	_____	_____	_____	_____	_____

¹ Use the following codes to designate the type of training or re-training:

E = Emergency
R = Routine

² Use the following codes to designate the location of training or re-training:

A = Outside plant instruction
B = In-house classroom instruction
C = On-the-job
D = Other (specify) _____

NA

³ Use the following codes to designate the person who performs the training or re-training:

A = Plant industrial hygienist
B = Supervisor
C = Foreman
D = Other (specify) _____

NA

⁴ Use the following codes to designate the frequency of respirator training or re-training:

A = Monthly
B = Fixed monthly
C = Other (specify) _____

NA

☐ Mark (X) this box if you attach a continuation sheet.

- 9.18 For each type of personal protective clothing and safety equipment used when working with the listed substance, indicate whether you have conducted a permeation test on the clothing or equipment for the listed substance.

Clothing and Equipment

Permeation Tests Conducted
(Y/N)

Coveralls

N

Bib apron

N

Gloves

N

Other (specify)

☐ Mark (X) this box if you attach a continuation sheet.

- 9.19 Describe all of the work practices and administrative controls used to reduce or eliminate worker exposure to the listed substance (e.g., restrict entrance only to authorized workers, mark areas with warning signs, insure worker detection and monitoring practices, provide worker training programs, etc.). Photocopy this question and complete it separately for each process type and work area.

☐

Process type ELECTRONIC ENCAPSULATION/POTTING

Work area 1

CYPTER LOCKED AREA - RESTRICTED ACCESS

ALL WORKER PROVIDED HAZARD COMMUNICATION

TRAINING

POTTING ROOM EXPLOSION PROOF WITH AGGRESSIVE EXHAUST VENTILATION

- 9.20 Indicate (X) how often you perform each housekeeping task used to clean up routine leaks or spills of the listed substance. Photocopy this question and complete it separately for each process type and work area.

Process type ELECTRONIC ENCAPSULATION/POTTING

Work area 1

<u>Housekeeping Tasks</u>	<u>Less Than Once Per Day</u>	<u>1-2 Times Per Day</u>	<u>3-4 Times Per Day</u>	<u>More Than 4 Times Per Day</u>
Sweeping	_____	_____	_____	_____
Vacuuming	_____	_____	_____	_____
Water flushing of floors	_____	_____	_____	_____
Other (specify)	_____	_____	_____	_____
<u>WIPE UP OF FLOOR</u>	<u>X</u>	_____	_____	_____

☐ Mark (X) this box if you attach a continuation sheet.

9.21 Do you have a written medical action plan for responding to routine or emergency exposure to the listed substance?

Routine exposure

Yes 1

☒ No 2

Emergency exposure

☒ Yes 1

No 2

If yes, where are copies of the plan maintained?

Routine exposure: _____

Emergency exposure: ENVIRONMENTAL HEALTH & SAFETY OFFICE,
GUARD HEADQUARTERS, DISPENSARY

9.22 Do you have a written leak and spill cleanup plan that addresses the listed substance? Circle the appropriate response.

☒ Yes 1

No 2

If yes, where are copies of the plan maintained? FLOOR MANAGER'S FILES

Has this plan been coordinated with state or local government response organizations
Circle the appropriate response.

☒ Yes 1

No 2

9.23 Who is responsible for monitoring worker safety at your facility? Circle the appropriate response.

Plant safety specialist 1

Insurance carrier 2

OSHA consultant 3

Other (specify) _____ 4

☐ Mark (X) this box if you attach a continuation sheet.

9.24 Who is responsible for safety and health training at your facility? Circle the appropriate response.

Plant safety specialist ①
Insurance carrier 2
OSHA consultant 3
Other (specify) _____ 4

9.25 Who is responsible for the medical program at your facility? Circle the appropriate response.

Plant physician 1
Consulting physician ②
Plant nurse 3
Consulting nurse ④
Other (specify) _____ 5

☐ Mark (X) this box if you attach a continuation sheet.

General Instructions:

Complete Part E (questions 10.23-10.35) for each non-routine release involving the listed substance that occurred during the reporting year. Report on all releases that are equal to or greater than the listed substance's reportable quantity value, RQ, unless the release is federally permitted as defined in 42 U.S.C. 9601, or is specifically excluded under the definition of release as defined in 40 CFR 302.3(22). Reportable quantities are codified in 40 CFR Part 302. If the listed substance is not a hazardous substance under the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA) and thus, does not have an RQ, then report releases that exceed 2,270 kg. If such a substance however, is designated as a CERCLA hazardous substance, then report those releases that are equal to or greater than the RQ. The facility may have answered these questions or similar questions under the Agency's Accidental Release Information Program and may already have this information readily available. Assign a number to each release and use this number throughout this part to identify the release. Releases over more than a 24-hour period are not single releases, i.e., the release of a chemical substance equal to or greater than an RQ must be reported as a separate release for each 24-hour period the release exceeds the RQ.

For questions 10.25-10.35, answer the questions for each release identified in question 10.23. Photocopy these questions and complete them separately for each release.

PART A GENERAL INFORMATION

10.01 Where is your facility located? Circle all appropriate responses.

CBI

- ☐ Industrial area ①
- Urban area ②
- Residential area ③
- Agricultural area ④
- Rural area ⑤
- Adjacent to a park or a recreational area ⑥
- Within 1 mile of a navigable waterway ⑦
- Within 1 mile of a school, university, hospital, or nursing home facility ⑧
- Within 1 mile of a non-navigable waterway ⑨
- Other (specify) _____ ⑩

☐ Mark (X) this box if you attach a continuation sheet.

10.02 Specify the exact location of your facility (from central point where process unit is located) in terms of latitude and longitude or Universal Transverse Mercator (UTM) coordinates.

Latitude 39° 56' 52"

Longitude 75° 07' 36"

UTM coordinates Zone _____, Northing _____, Easting _____

10.03 If you monitor meteorological conditions in the vicinity of your facility, provide the following information.

Average annual precipitation 'uk' inches/yea

Predominant wind direction Westerly

10.04 Indicate the depth to groundwater below your facility.

Depth to groundwater 4-6 meters

10.05 For each on-site activity listed, indicate (Y/N/NA) all routine releases of the listed substance to the environment. (Refer to the instructions for a definition of Y, N, and NA.)

CBI

☐

On-Site Activity

Environmental Release

	Air	Water	Land
Manufacturing	<u>NA</u>	<u>NA</u>	<u>NA</u>
Importing	<u>NA</u>	<u>NA</u>	<u>NA</u>
Processing	<u>Y</u>	<u>N</u>	<u>N</u>
Otherwise used	<u>NA</u>	<u>NA</u>	<u>NA</u>
Product or residual storage	<u>N</u>	<u>N</u>	<u>N</u>
Disposal	<u>N</u>	<u>N</u>	<u>N</u>
Transport	<u>N</u>	<u>N</u>	<u>N</u>

☐ Mark (X) this box if you attach a continuation sheet.

10.06 Provide the following information for the listed substance and specify the level of precision for each item. (Refer to the instructions for further explanation and an example.)

CBI

☐

Quantity discharged to the air	<u>42</u>	kg/yr = <u>.5</u>
Quantity discharged in wastewaters	<u>- 0 -</u>	kg/yr = <u> </u>
Quantity managed as other waste in on-site treatment, storage, or disposal units	<u>- 0 -</u>	kg/yr = <u> </u>
Quantity managed as other waste in off-site treatment, storage, or disposal units	<u>- 0 -</u>	kg/yr = <u> </u>

☐ Mark (X) this box if you attach a continuation sheet.

- 10.07 Complete the following table for each process stream containing the listed substance as identified in your process block or residual treatment block flow diagram(s). Photocopy this question and complete it separately for each process type.

CBI

☐

Process type ENCAPSULATION / POTTING

Process Stream ID Code	Media Affected ¹	Average Amount of Listed Substance Released ²	Number of Batches/Year	Days of Operation/Year
<u>7C</u>	<u>G</u>	<u>NA</u>	<u>200</u>	<u>200</u>
<u>7E</u>	<u>G</u>	<u>NA</u>	<u>200</u>	<u>200</u>
<u>7F</u>	<u>A</u>	<u><0.01 (A)</u>	<u>200</u>	<u>200</u>
<u>7G</u>	<u>A</u>	<u><0.01 (A)</u>	<u>200</u>	<u>200</u>

¹ Use the following codes to designate the media affected:

- A = Air
- B = Land
- C = Groundwater
- D = POTW
- E = Navigable waterway
- F = Non-navigable waterway
- G = Other (specify) TSDF

² Specify the average amount of listed substance released to the environment and use the following codes to designate the units used to measure the release:

- A = kg/day
- B = kg/batch

☐ Mark (X) this box if you attach a continuation sheet.

10.08 Describe the control technologies used to minimize release of the listed substance for each process stream containing the listed substance as identified in your process block or residual treatment block flow diagram(s). Photocopy this question and complete it separately for each process type.

CBI

☐ Process type ENCAPSULATION / POTTING

<u>Stream ID Code</u>	<u>Control Technology</u>	<u>Percent Efficiency</u>
<u>7C</u>	<u>NONE</u>	
<u>7E</u>	<u>NONE</u>	
<u>7F</u>	<u>NONE</u>	
<u>7G</u>	<u>NONE</u>	

☐ Mark (X) this box if you attach a continuation sheet.

- 10.09 Point Source Emissions -- Identify each emission point source containing the listed substance in terms of a Stream ID Code as identified in your process block or residual treatment block flow diagram(s), and provide a description of each point source. Do not include raw material and product storage vents, or fugitive emission sources (e.g., equipment leaks). Photocopy this question and complete it separately for each process type.
- ☐ CBI

Process type POTTING/ ENCAPSULATION

Point Source
ID Code

Description of Emission Point Source

7F

Work Area Ventilation

7G

Curing Oven Ventilation

☐ Mark (X) this box if you attach a continuation sheet.

10.11 Stack Parameters -- Identify the stack parameters for each Point Source ID Code identified in question 10.09 by completing the following table.

CBI

☐

Point Source ID Code	Stack Height(m)	Stack Inner Diameter (at outlet) (m)	Exhaust Temperature (°C)	Emission Exit Velocity (m/sec)	Building Height(m)	Building Width(m)	Vent Type
7F	28	0.30	ambient	'uk'	27	NA	V
7G	28	0.30	ambient	'uk'	27	NA	V

² Height of attached or adjacent building

² Width of attached or adjacent building

³ Use the following codes to designate vent type:

H = Horizontal

V = Vertical

☐ Mark (X) this box if you attach a continuation sheet.

☐ Mark (X) this box if you attach a continuation sheet.

10.10 Emission Characteristics - Characterize the emissions for each Point Source ID Code identified in question 10.09 by completing the following table.

CBT

<input type="checkbox"/> Point Source ID Code	Physical State	Average Emissions (kg/day)	Frequency ² (days/yr)	Duration ³ (min/day)	Average Emission Factor ⁴	Maximum Emission Rate (kg/min)	Maximum Emission Rate Frequency (events/yr)	Maximum Emission Rate Duration (min/event)
7F	G	1.5	200	360	250/1	<0.1	200	120
7G	G	25	200	220	2500/1	0.25	200	120

¹Use the following codes to designate physical state at the point of release:
G = Gas; V = Vapor; P = Particulate; A = Aerosol; O = Other (specify) _____

²Frequency of emission at any level of emission

³Duration of emission at any level of emission

⁴Average Emission Factor — Provide estimated (± 25 percent) emission factor (kg of emission per kg of production of listed substance)

10.12 If the listed substance is emitted in particulate form, indicate the particle size distribution for each Point Source ID Code identified in question 10.09. Photocopy this question and complete it separately for each emission point source

CBI

☐

Point source ID code NA

Size Range (microns)

Mass Fraction (% ± % precision)

< 1

≥ 1 to < 10

≥ 10 to < 30

≥ 30 to < 50

≥ 50 to < 100

≥ 100 to < 500

≥ 500

Total = 100%

☐ Mark (X) this box if you attach a continuation sheet.

- 10.13 Equipment Leaks -- Complete the following table by providing the number of equipment types listed which are exposed to the listed substance and which are in service according to the specified weight percent of the listed substance passing through the component. Do this for each process type identified in your process block or residual treatment block flow diagram(s). Do not include equipment types that are not exposed to the listed substance. If this is a batch or intermittently operated process, give an overall percentage of time per year that the process type is exposed to the listed substance. Photocopy this question and complete it separately for each process type.

CBI

☐Process type ENCAPSULATION / POTTING

Percentage of time per year that the listed substance is exposed to this process type

Equipment Type	Number of Components in Service by Weight Percent of Listed Substance in Process Stream					
	Less than 5%	5-10%	11-25%	26-75%	76-99%	Greater than 99%
Pump seals ¹						
Packed	<u>NA</u>	<u>NA</u>	<u>NA</u>	<u>2</u>	<u>NA</u>	<u>NA</u>
Mechanical	<u>NA</u>	<u>NA</u>	<u>NA</u>	<u>NA</u>	<u>NA</u>	<u>NA</u>
Double mechanical ²	<u>NA</u>	<u>NA</u>	<u>NA</u>	<u>NA</u>	<u>NA</u>	<u>NA</u>
Compressor seals ¹	<u>NA</u>	<u>NA</u>	<u>NA</u>	<u>NA</u>	<u>NA</u>	<u>NA</u>
Flanges	<u>NA</u>	<u>NA</u>	<u>1</u>	<u>2</u>	<u>NA</u>	<u>NA</u>
Valves						
Gas ³	<u>NA</u>	<u>NA</u>	<u>NA</u>	<u>NA</u>	<u>NA</u>	<u>NA</u>
Liquid	<u>NA</u>	<u>NA</u>	<u>NA</u>	<u>NA</u>	<u>NA</u>	<u>NA</u>
Pressure relief devices ⁴ (Gas or vapor only)	<u>NA</u>	<u>NA</u>	<u>NA</u>	<u>NA</u>	<u>NA</u>	<u>NA</u>
Sample connections						
Gas	<u>NA</u>	<u>NA</u>	<u>NA</u>	<u>NA</u>	<u>NA</u>	<u>NA</u>
Liquid	<u>NA</u>	<u>NA</u>	<u>NA</u>	<u>2</u>	<u>NA</u>	<u>NA</u>
Open-ended lines ⁵ (e.g., purge, vent)						
Gas	<u>NA</u>	<u>NA</u>	<u>NA</u>	<u>NA</u>	<u>NA</u>	<u>NA</u>
Liquid	<u>NA</u>	<u>NA</u>	<u>1</u>	<u>1</u>	<u>NA</u>	<u>NA</u>

¹List the number of pump and compressor seals, rather than the number of pumps or compressors

10.13 continued on next page

☐

Mark (X) this box if you attach a continuation sheet.

²If double mechanical seals are operated with the barrier (B) fluid at a pressure greater than the pump stuffing box pressure and/or equipped with a sensor (S) that will detect failure of the seal system, the barrier fluid system, or both, indicate with a "B" and/or an "S", respectively.

Conditions existing in the valve during normal operation

Report all pressure relief devices in service, including those equipped with control devices

* Lines closed during normal operation that would be used during maintenance operations

10.14 Pressure Relief Devices with Controls -- Complete the following table for those pressure relief devices identified in 10.13 to indicate which pressure relief devices in service are controlled. If a pressure relief device is not controlled, enter "None" under column c.

CBI

{ — }

[illegible]

¹ Refer to the table in question 10.13 and record the percent range given under the heading entitled "Number of Components in Service by Weight Percent of Listed Substance" (e.g., <5%, 5-10%, 11-25%, etc.)

²The EPA assigns a control efficiency of 100 percent for equipment leaks controlled with rupture discs under normal operating conditions. The EPA assigns a control efficiency of 98 percent for emissions routed to a flare under normal operating conditions

☐ Mark (X) this box if you attach a continuation sheet.

10.15 Equipment Leak Detection -- If a formal leak detection and repair program is in place, complete the following table regarding those leak detection and repair procedures. Photocopy this question and complete it separately for each process type.

CBI

☐

Process type

NA

Equipment Type	Leak Detection Concentration (ppm or mg/m ³) Measured at	Detection Device	Frequency of Leak Detection (per year)	Repairs Initiated (days after detection)	Repairs Completed (days after initiated)
	Inches from Source				
Pump seals					
Packed					
Mechanical					
Double mechanical					
Compressor seals					
Flanges					
Valves					
Gas					
Liquid					
Pressure relief devices (gas or vapor only)					
Sample connections					
Gas					
Liquid					
Open-ended lines					
Gas					
Liquid					

¹Use the following codes to designate detection device:

POVA = Portable organic vapor analyzer

FPM = Fixed point monitoring

0 = Other (specify) _____

☐

Mark (X) this box if you attach a continuation sheet.

CBI

A large, hand-drawn oval containing the letters 'NA' written in a simple, slightly slanted font. The oval is drawn with a single continuous line.

P - Fixed roof
CIF - Contact internal floating roof
NCIF - Noncontact internal floating roof
EPR - External floating roof
P - Pressure vessel (indicate pressure rating)
H - Horizontal
U - Underground

- MS1 = Mechanical shoe, primary
- MS2 = Shoe-mounted secondary
- MS2R = Rim-mounted, secondary
- LM1 = Liquid-mounted resilient filled seal, primary
- LM2 = Rim-mounted shield
- LMU = Weather shield
- VM1 = Vapor mounted resilient filled seal, primary
- VM2 = Rim-mounted secondary
- VMU = Weather shield

¹Other than floating roofs

⁶Use the following codes to designate basis for estimate of control efficiency:

C = Calculations
S = Sampling

- 10.17 National Pollutant Discharge Elimination System (NPDES) Discharges -- Complete the following information for each body of water NPDES discharges are discharged into. If discharges are to more than one body of water, photocopy this question and complete it separately for each discharge.

CBI

☐

Discharge source (stream ID code) NA

Is discharge to a moving or standing body of water? Circle the appropriate response.

Moving body of water 1

Standing body of water 0

Estimated average base flow (moving) 1/day

Estimated average volume (standing) 1

Average volume of discharge from facility 1/day

..... days/year

Maximum volume of discharge from facility 1/day

..... days/year

Average concentration of listed substance in discharge mg/l or ppm

Maximum concentration of listed substance in discharge mg/l or ppm

- 10.18 Publicly Owned Treatment Works (POTW) -- Complete the following information for discharges containing the listed substance which are discharged to a POTW from your facility.

CBI

☐

Discharge source (stream ID code) NA

Average volume of discharge from facility 1/day

..... days/year

Maximum volume of discharge from facility 1/day

..... days/year

Average concentration of listed substance in discharge mg/l or ppm

Maximum concentration of listed substance in discharge mg/l or ppm

☐ Mark (X) this box if you attach a continuation sheet.

10.19 Nonpoint Sources -- Complete the following information for each nonpoint discharge source. Examples of nonpoint sources include stormwater runoff, waste pile runoff, and runoff from product or raw material storage areas or other sources that contain the listed substance and may be discharged to surface water. Exclude NPDES or POTW discharges. If discharges are to more than one body of water, photocopy this question and complete it separately for each discharge.

CBI

☐ Discharge source (stream ID code)

NA

Is discharge to a moving or standing body of water? Circle the appropriate response.

Moving body of water 1

Standing body of water 2

Estimated average base flow (moving) 1/day

Estimated average volume (standing) 1

Average volume of discharge from facility 1/day

..... days/year

Maximum volume of discharge from facility 1/day

..... days/year

Average concentration of listed substance in discharge mg/l or ppb

Maximum concentration of listed substance in discharge mg/l or ppb

☐ Mark (X) this box if you attach a continuation sheet.

10.20 Releases to Soils -- Complete the following information for up to three random soil core samples that were taken and analyzed for the listed substance during the reporting year. Report the concentrations of the listed substance determined by soil core monitoring studies/tests. Specify the distance from the facility that soil cores were taken, and indicate the soil type and sample depth of the soil cores. (Refer to the glossary for definitions of soil textures given in footnote 2.)

CBI

☐

Sample	Concentration (ug/kg) of Listed Substance (\pm % precision)	Distance from Plant (m) ¹	Soil Texture ²	Sample Depth
1	NA			
2				
3				

¹Use the following code to designate if the sample was taken within the facility's boundary:

OS = On-site

²Use the following codes to designate soil texture:

A = Sand	G = Sandy clay loam
B = Loamy sand	H = Clay loam
C = Sandy loam	I = Silty clay loam
D = Loam	J = Sandy clay
E = Silty loam	K = Silty clay
F = Silt	L = Clay

10.21 Releases to Groundwater -- Complete the following information for up to three random samples of groundwater from monitoring wells during the reporting year that were analyzed for the listed substance. The average and maximum concentration refers to the listed substance.

CBI

☐

Sample	Distance from Plant (m) ¹	Well Depth (m)	Average Concentration (mg/l) (\pm % precision)	Maximum Concentration (mg/l) (\pm % precision)
1		NA		
2				
3				

¹Use the following code to designate if the sample was taken within the facility's boundary:

OS = On-site

☐ Mark (X) this box if you attach a continuation sheet.

10.22 Releases to Drinking Water -- Complete the following table for up to three samples from drinking water wells monitored during the reporting year. The average and maximum concentration refers to the listed substance.

CBI

[]

Well	Well Depth (m)	Distance from Plant (m) ¹	Average Concentration (mg/l) (± % precision)	Maximum Concentration (mg/l) (± % precision)
1		N/A		
2				
3				

¹Use the following code to designate if the sample was taken within the facility's boundary:

OS = On-site

[] Mark (X) this box if you attach a continuation sheet.

PART E NON-ROUTINE RELEASES

10.23 Indicate the date and time when the release occurred and when the release ceased or was stopped. If there were more than six releases, attach a continuation sheet and list all releases.

Release	Date Started	Time (am/pm)	Date Stopped	Time
1	N/A			
2				
3				
4				
5				
6				

10.24 Specify the weather conditions at the time of each release.

Release	Wind Speed (km/hr)	Wind Direction	Humidity (%)	Temperature (°C)	Precipitation (Y/N)
1	N/A				
2					
3					
4					
5					
6					

☐ Mark (X) this box if you attach a continuation sheet.

- 10.25 Complete the following information for each media into which the listed substance was released. Any volatile substance that was released to land, but that was expected to volatilize, should be listed as a release to air.

Release No.

Media	Quantity (kg)	Method of Release	Migration Beyond Boundaries (Y/N)	Quantity Migrate (kg)
Land				
Air				
Groundwater				
Surface water				

- 10.26 Specify the physical state and concentration of the listed substance at the time and point of release.

Release No.

Point of release

Physical state

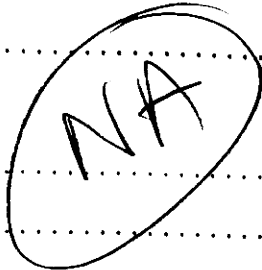
Concentration (%)

☐ Mark (X) this box if you attach a continuation sheet.

10.27 Circle all appropriate responses relating to the cause and the effects of the release.

Release No.

Cause of Release

Equipment failure 

Operator error

Bypass condition

Upset condition

Fire

Unknown

Other (specify)

Results of Release

Spill

Vapor release

Explosion

Fire

Other (specify)

☐ Mark (X) this box if you attach a continuation sheet.

APPENDIX I: List of Continuation Sheets

Attach continuation sheets for sections of this form and optional information after this page. In column 1, clearly identify the continuation sheet by listing the question number to which it relates. In column 2, enter the inclusive page numbers of the continuation sheet for each question number.

[illegible]

☐ Mark (X) this box if you attach a continuation sheet.